

VOLUME VIII

NO. 6

WESTERN INDUSTRY



Twenty-Five Cents

June, 1943

VICTOR



ROUND AND ROUND WE GO...

No binding—no bother—simple to adjust and operate—A great time-saver for all circle cutting operations. Slag protected ball bearing gives long service life.

Write for circular describing the VICTOR Circle Cutting Attachment

VICTOR EQUIPMENT COMPANY
844 FOLSOM STREET, SAN FRANCISCO





IT'S THE NUT THAT LICKS FASTENING PROBLEMS

THINK of the tough jobs for nuts on planes, tanks, guns, naval vessels and production equipment.

And it's in these jobs you'll find Elastic Stop Nuts.

In fact, you'll find more of them than all other lock nuts combined.

The reason is, these nuts stay put.

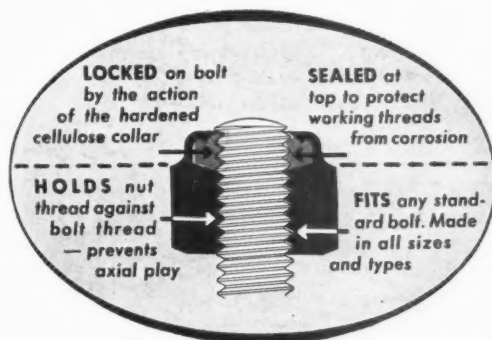
Once on, they're set — don't shake loose even under severe vibration. And you can take them off and put them on many times and they won't lose their locking ability.

When peace returns, they're going to solve all kinds of manufacturing problems. They're going to relieve maintenance engi-

neers of frequent inspections and *save time and money in replacements.*

Our engineers have been solving fastening problems for years — the stickers of both peace and war.

Whenever you have a fastening detail to be met, feel free to call upon us. We'll gladly share our experience and recommend the right Elastic Stop Nut.



ELASTIC STOP NUTS

Lock fast to make things last

ELASTIC STOP NUT CORPORATION OF AMERICA
UNION, NEW JERSEY



GEARITE LUBRICATES AND CLEANS!

1 Gearite—a Union Oil Company product—has some remarkable qualities. In the first place, *it's a lubricant in a solvent!* When applied, the solvent in Gearite loosens up old deposits of grease and dirt—evaporates—and leaves just the right amount of new grease on gear teeth.



2 Secondly, application of Gearite is simple because you don't have to heat it. It can be applied by spray gun, by the drip-cup method, by brush, or by direct pouring. And you don't have to worry about even distribution. The solvent in Gearite carries the lubricant to every tooth, every tiny working surface.

TAKE THIS TIP! When you buy petroleum products buy enough to last. It will protect you against transportation tie-ups and will insure you of an adequate supply of the products you need.



3 And that isn't all—Gearite is far cleaner than most gear lubricants because it forms only a thin layer of grease. It doesn't collect dirt. It won't throw off. It's tacky, will not become brittle or flake off gear teeth during idle periods.



4 Don't miss seeing for yourself how Gearite works. Your Union Oil Resident Manager will be glad to take your order by phone.

OIL IS AMMUNITION—USE IT WISELY



an industrial product of
UNION OIL CO.

OTHER SERVICE-PROVED UNION OIL PRODUCTS

Stop-Rust B—Best internal rust-preventive you can buy. Clings to metal surfaces so well it won't drain off for months. Absolutely prevents rust.

Unacal Cable Lubricant—Penetrates to the *inside* of wire rope and then *works out*. Reduces cable wear, protects *all* the strands, *all* the way through.

Eboncup Greases—Union Oil Company's Eboncup greases have excellent heat and water resistant qualities. Do an outstanding job in protecting bearings.

EDITORIAL COMMENT

(Communications on any subject of interest to our readers are welcomed. If author wishes, his name will not be used. Unsigned contributions will be disregarded.)

Give Us Business-like Government

INDUSTRY'S basic principle of getting things done the quickest, simplest and soundest way is responsible for the tremendous production record in the present war. Industrialists have won from their hitherto supposedly greatest enemy, President Roosevelt, the credit of being "miracle men."

By contrast, government's slow, fumbling and complicated methods of operating seem in a time like this almost worse than they really are. The excuse may be that so much of the government's present structure is a series of war-created emergency organizations, but on the other hand industry has set up multitudes of emergency organizations that have performed the "miracles" of which the President speaks so glowingly.

The answer is that government has spent plenty of time trying to reform industry, but has never paid much attention to becoming business-like itself. Congressional procedure alone would bankrupt every business organization that tried to pattern after it, and all down the line to the smallest bureaus archaic practices prevail. Not that there aren't intelligent and patriotic government employees—it is simply that they are up against a task too great for their efforts.

Industry has been purged in the fires of adversity and hostility the last ten years, and today it stands before the court of public opinion with far cleaner hands than ever before. It should be ready to undertake a new task, namely, of demanding that government reform its antiquated operating methods.

If industry has learned anything in the last few years, it will confine the task entirely to a demand for simple, sensible and economical procedures, and not commit the colossal folly of hitching it up to a campaign for freedom of industry from governmental control. The two matters are entirely separate, and although the latter may be far more important, industry has still to prove more conclusively its trustworthiness and self-control before politicians will abandon their efforts to put industry in a strait-jacket.

But on the question of efficiency alone, industry has a clear-cut case and a timely opportunity to get started on it, while industry is in the front parlor, instead of in the doghouse. Industry organizations should set up planning committees devoted to preparing programs for streamlined, business-like governmental organization and practices. The impetus of such a movement will inevitably produce results, sooner or later.

Thank You, Mr. Collyer

JOHN L. COLLYER, president, B. F. Goodrich Company, writes us as follows:

"Many thanks for sending me a copy of your editorial from the April issue of *Western Industry*, which I have read with interest.

"We have known something of the splendid work now being carried on by the Aircraft War Production Council and we agree with you that the continuing contributions of this group are of vital importance. The rubber industry is in effect participating in a similar effort under the direction of the Office of the Rubber Director.

"I appreciate your interest in writing me as you did."

WESTERN INDUSTRY

News, Methods, Solutions to Problems of the Principal Manufacturing and Processing Industries of the West

CONTENTS FOR JUNE, 1943

Editorial Comment	5
Spotlight on The News	13-15
L. A. and Portland Find Remedies for Absenteeism	16-18
New Rod Mill For Columbia	19
Nineteen Shop Experiences Before Assignment to Job	20-22
Self-Support the Only Sound Post-War Basis	24
N.A.M. Northwest Meetings Pictures	26-27
Industrial Revolution of Pacific Northwest	28
Western Industry in Pictures	30
Washington Correspondence	32-33
Westerners at Work	34-35
WPB Redistribution Helps Western Firms	36-37
Labor and the Industrial West	38-40
Business Books	40
The West On Its Way	41-46
Western Trade Winds	47
Yours For the Asking	48
The Showcase	49-50
Advertisers Index	50

OUR COVER PICTURE

• General Sherman tanks are part of the Pacific Northwest contribution to the war effort. They are being turned out on an assembly line by the Pacific Car and Foundry Company, at Renton, Washington. Seventy percent of the metal used in this 32-ton tank is scrap from the Northwest, and 43 of the 348 sub-contractors are from the Seattle area. Before the war Pacific Car and Foundry manufactured trolley coaches, buses and railroad equipment.



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"JOB-SUITED" TRUCKS

ANY
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plus

ANY
SUPER

equals

A "Job-
Suited" Truck

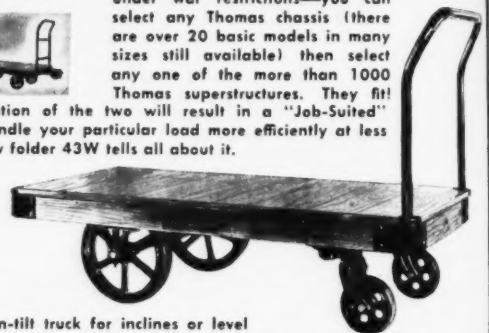


A brand new idea to make easier the selection of the right truck for any job

Now due to the Thomas new "Job-Suited" development—even under war restrictions—you can select any Thomas chassis (there are over 20 basic models in many sizes still available) then select any one of the more than 1000 Thomas superstructures. They fit!

And the combination of the two will result in a "Job-Suited" truck that will handle your particular load more efficiently at less cost. Thomas' new folder 43W tells all about it.

Send for
a "Job-Suited"
Catalog



Series 3400

Hardwood Frame Non-tilt truck for inclines or level floors. War model furnished with smooth metal wheels, otherwise no change. Shown with type A removable superstructure. All superstructures illustrated, and many others, fit it. Write for folder 43W. Representatives in principal cities. Consult phone book.

- Frame: Heavy 2" thick hardwood plank
- Deck: Smooth, seasoned 1" hardwood
- Round corners: Heavy steel pockets
- Superstructures: Removable or locked
- Ten standard platform sizes in 3400

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4351 Mississippi River Keokuk, Iowa



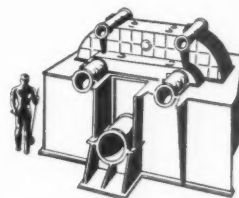
GEARED TO THE BIG JOB



Coupling Hendy marine turbines to the propellers that drive our "Bridge-of-Ships" are these smooth running Hendy reduction gears. Built to the highest precision-standards known in the American gear-cutting industry, they are produced in air conditioned, temperature controlled rooms—by time-saving, production-line methods.

Close meshing of these gears is typical of the coordination that exists among the "Iron Men of Hendy"—who have whole-heartedly geared their combined efforts to the "big job of today." Consistently ahead of schedules, they are delivering 2,500 hp and 2,750 hp steam engines and 4,000 hp reduction gear turbines. Soon they will be building even larger marine power plants—of over 8,000 horsepower.

When "the gears are shifted to peace," this skilled, dynamic organization will focus its efficient production methods on peace-time power—for industries that may need its skill and experience.



ANOTHER ACHIEVEMENT BY THE IRON MEN OF HENDY

... is the short time they required to erect plants, design tools, develop production methods, and the speed with which they are now delivering double-reduction gear units for marine turbines. The "bull-gears" for the 4,000 hp reduction gears are 104.6" in diameter, 14" helix; reduction ratio is 65:1.

JOSHUA HENDY IRON WORKS

ESTABLISHED 1856

SUNNYVALE • CALIFORNIA

Divisions: POMONA PUMP COMPANY
CROCKER-WHEELER ELECTRIC MFG. CO.

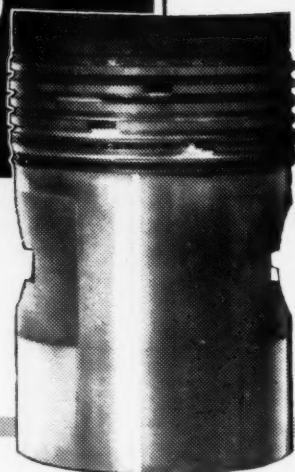


Manufacturing Plants: SUNNYVALE, LONG BEACH, POMONA
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HOW TO PROTECT YOUR DIESELS

AND KEEP THEM ON THEIR WARTIME JOB

Those fighting Diesels have got to last, and it's up to you to help them with the finest lubrication you can get. CADEL—the oil that's specially balanced to do all jobs well—protects bearings, pistons, walls and rings in four outstanding ways:



1. CADEL CLINGS

to smooth metal surfaces with extra film strength imparted by special chemical additives.

2. CADEL CLEANS

as it lubricates, eliminating impurities through the action of another special chemical.

3. CADEL OILS

with a supreme oiliness that keeps rings moving free in the heaviest, hottest going.

4. CADEL SEALS

the power in, lessening blow-by and increasing power and fuel economy.

Ask your Associated representative today for the full story of how Cadel N.C. Diesel Engine Lubricant and Associated Motor Diesel Fuel are helping industry do its wartime job.

TIDE WATER ASSOCIATED OIL COMPANY



CADEL N.C. DIESEL LUBRICANT

Free TRUCK AND TRACTOR LUBRICATION CHARTS

Charts showing where, when and what type of lubricants to apply to your trucking equipment, both gasoline and diesel, according to manufacturers' recommendations. Free of cost or obligation, from your nearest Associated agent.

LET'S GET ASSOCIATED Veedol and Tydol Motor Oils • Veedol Extreme Pressure Lubricant • Veedol Hi-Pressure Lubricant • Veedol U.W. Medium
Veedol Water Pump Grease • Cadel N.C. Diesel Engine Lubricant • Associated Motor Diesel Fuel • Flying A Gasoline • Associated Aviation Ethyl Gasoline
Oil is Ammunition—Use it wisely!

"WE'RE BUTTON PRESSERS THE BOSS AND I"



*"This idea appeals to me — bossing
things around by push-buttons!
Come on, heavyweight, get going!"*

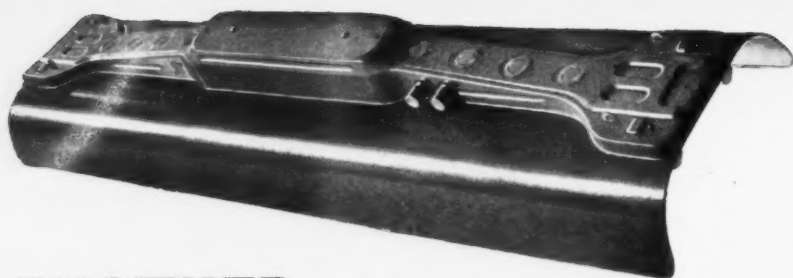


*Available in capacities
of 250, 500, 1000
and 2000 lbs.*

Right you are, Miss War Winner! And give your boss credit for knowing a thing or two. He knows that war production calls for speed — that electrical energy is faster, costs less than human energy. He knows how much time it saves you — how much effort and fatigue you're spared. That's important in war production; and in peacetime, too. That's why your boss provides Zip-Lifts — to make things easier for you. They're simple to operate; easy to mount on hook, jib, or trolley; and they plug into any standard lighting circuit. The Zip-Lift is the only small hoist with this full magnetic push-button control.

General Offices: 4604 West National Avenue, Milwaukee, Wis.

HARNISCHFEGER
CORPORATION
HOISTS • WELDING ELECTRODES • MOTORS  EXCAVATORS • ELECTRIC CRANES • ARC WELDERS



ANOTHER FLUORESCENT FIRST!

● Sylvania takes pride in announcing the fluorescent fixture of the future — a simple, standard, flexible design.

This is another Sylvania fluorescent first and takes its place on a long list, beginning with the first complete industrial and commercial fixtures on the market.

Sylvania engineers have designed a unique industrial fixture without metallic reflector, with top-housing under three pounds. Their perfected

design is a revelation of simplicity and adaptability.

The new fixture is made in two sizes — for 100-watt and 40-watt lamps. In either length, *one* standard fixture will fill any industrial lighting requirement.

A streamlined top-housing encloses the ballast, protecting it from dust. Optional knock-outs permit any known mounting. Two or three lamps can be used, depending on light output desired. The starter sockets are accessible. And there is knock-out provision for a pull-chain switch if desired.

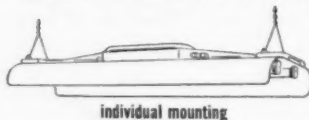
Sylvania pioneered and proved in industry the composition reflector, which has an efficiency of 86 per cent — higher than that of porcelain

enameled metal in conventional contours. Fabricated from a strong and durable composition, the reflector withstands extreme conditions of temperature and humidity.

The Sylvania all-purpose composition reflector fluorescent fixture meets all WPB requirements, is approved by Underwriters' Laboratories and carries our own guarantee. Standardize with the fixture of the future.



HANG IT HOWEVER YOU WANT



individual mounting



continuous row installation



SYLVANIA

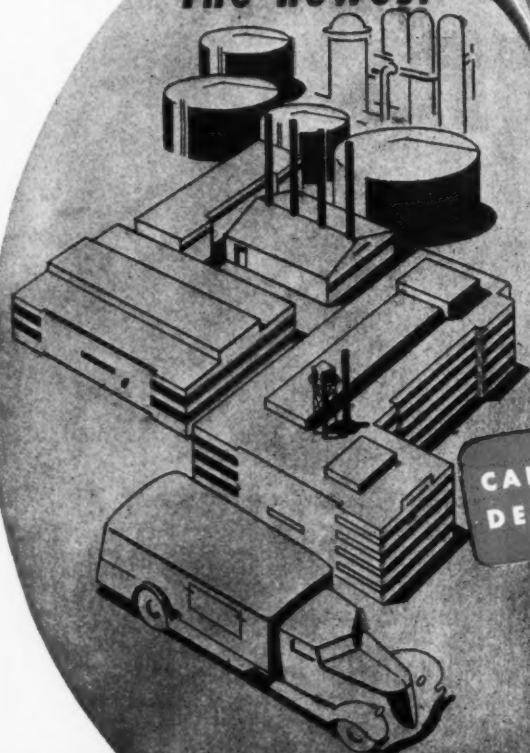
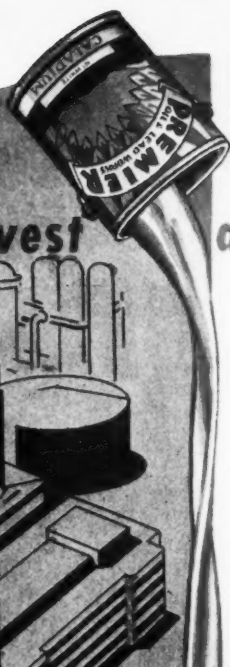
ELECTRIC PRODUCTS INC.

Formerly Hygrade Sylvania Corporation
Ipswich, Mass.

INCANDESCENT LAMPS, FLUORESCENT
LAMPS, FIXTURES AND ACCESSORIES,
RADIO TUBES, ELECTRONIC DEVICES.

Liquid Insulation

The newest development in PAINT



**CALADIUM-COVERED SURFACES
DEFLECT HEAT RAYS OF SUN**

Setting new standards of coverage and durability—revolutionary in the many jobs it will do better—CALADIUM delivers amazing paint protection. It is liquid insulation at its best.

Tests have proved that CALADIUM has as much as 56% greater heat deflecting properties than the average aluminum paint. And this remarkable heat deflective value actually increases with age.

CALADIUM may be used over any surfaces where, formerly, war scarce aluminum paints were used or specified to prevent "bleeding" or to deflect heat rays of the sun.

CALADIUM has many advantages over aluminum as it does not have the usual metallic appearing finish but is available in a wide selection of decorative colors.

CALADIUM produces a tough, flexible coating of unsurpassed durability over all kinds of wood or metal surfaces and even covers asphalt and other bituminous surfaces without "bleed-thru."

CALADIUM will help solve your painting problem.

PREMIER OIL & LEAD WORKS
3930 MEDFORD STREET • LOS ANGELES • PHONE AN. 1-5141



Amazing heat deflection properties reduce evaporation loss to minimum.



Keeps buildings cooler—wide selection of decorative colors.



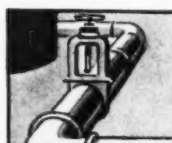
For camouflage—low visibility colors, resists infra-red photography detection.



Covers asphalt and other bituminous coatings without "bleed-thru."



Weather resistant coating for all kinds of rolling stock—dull or glossy finish



Does the hard jobs better—dries rapidly, brush or spray.



Caladium

PERFECTION IN PROTECTION



GUARDIANS OF VITAL WAR MATERIAL

Timber Builds Great Plants for War and Peace

A section of the giant, all-timber assembly plant of the Douglas Aircraft Company, just opened for operations. Architect-Engineer-Manager, The Austin Company, Chicago.

Engineers, Architects, Designers, Builders in every field of industry now are using engineered timber for heavy duty structures. The TECO Timber Connector System made this possible. You, too, can design in timber with TECO. Write for our literature today.

The **TECO** Ring Connector spreads the load on a timber joint over practically the entire cross-section of the wood . . . brings the full structural strength of lumber into play.

TIMBER ENGINEERING COMPANY OF CALIFORNIA

85 Second Street, San Francisco, Cal.

TIMBER ENGINEERING COMPANY

Washington, D. C.

Portland, Oregon

WOOD GOES TO WAR
An MGM Technicolor short by James A. Fitzpatrick.
Ask your theater when you can see it.

Manp
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Spotlight

on the NEWS

WESTERN INDUSTRY
FOR JUNE, 1943

VOLUME VIII

NUMBER 6

Manpower Merry-Go-Round

MANPOWER is a muddle right now, if you are looking for perfectly regimented men and women, millions of them, all in the place they ought to be at just the right time. But it's the unfavorable things we hear most about; the favorable don't make such exciting reading.

Aircraft manufacturers believe men can be worked up to 60 hours a week in most departments without slowing them up too much (not true for women, however) and have revised their expectations about the number of women to be employed from 50 per cent down to 35 per cent (but WMC predicts 70-80 per cent women next fall). Improvements reported all along the line in regard to absenteeism, as the result of organized effort by management and labor. Bad feeding conditions reported to Senator Downey's sub-committee from many shipyards. Longshoremen have started to sharpshoot management over slow-downs by blaming them on management and threatening to report these occurrences to Washington.

Part-time employment increases, will help in considerable measure to relieve the labor shortage. But the big and unsolved problem is still ahead, namely, moving the crops.

Plane Plans Unfold

Fiction isn't in it with fact. When the first excitement over the Kaiser cargo-plane plans last fall died down, self-appointed pooh-poohers began to let it be known that very likely there wouldn't be any such planes built. Kaiser was getting out of his line, etc. The later announcements that Kaiser had purchased two eastern airframe plants tuned the pooh-poohers down somewhat and now the Defense Plant Corporation lets out the news that three Kaiser-Hughes flying boats, with plastic hulls and eight engines each, are well under way and

will be test-hopped next January or February. Neither DPC nor the Hughes organization are long on publicity, incidentally, so the story can't be considered a publicity stunt.

Kaiser himself announced in Portland recently that he was seeking a government contract to build a new type metal cargo plane, and another Kaiser organization, Cargoes, Inc., is to build helicopters, two of them at once and combat production (submarine defense) to follow as soon as possible.

A Long Range Problem

News that expansion of guayule cultivation on irrigated lands in California and other Western states has been halted in order not to interfere with production of foodstuffs is another substantiation of what our Washington news letter has been predicting for some months, namely, that food production would become our No. 1 problem, ranking even ahead of manpower. This act by the Rubber Director,

LIGHTER PAPER, BUT MORE PAGES

It's an ill wind that blows no one good, and *Western Industry* is actually able to give its readers better service as a result of the paper shortage that is now looming up on the horizon. It works this way: the War Production Board has ordered all magazines to conserve paper, and *Western Industry*, along with other periodicals, effected one economy several months ago by reducing the margins around the type pages. The next big step was to use lighter paper stock, which the publishers are reluctant to do unless necessary, because the appearance is not so pleasing. Actually, however, the economy has been so great that we have been able to increase the number of pages in the magazine and still reduce the tonnage of paper used in the course of a year. At a time when industrial history is being written in the West, greater editorial service to our readers is essential and we are pleased to be able to give it.

Mr. Jeffers, doesn't necessarily mean the end of guayule, but it does indicate that governmental thinking is beginning to grasp the fact that agriculture is a long-range proposition, and that cure-alls devised to meet crop surpluses are likely to result in embarrassing shortages later.

Start Post-War Plant Now

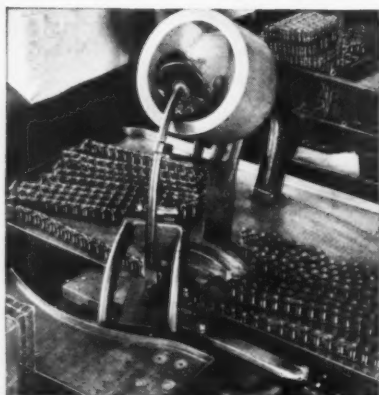
First results in Los Angeles of action now for peacetime economic reconstruction is the purchase of a factory building for the start of a new regional industry after the war. The new plant will be a branch of the Filtex Company of Jackson, Mich., which will manufacture aircraft parts now, but after the war will turn out the first vacuum cleaners manufactured in southern California.

Following a recent study which listed products that could be, but are not, manufactured in the Los Angeles area, the industrial department of the Los Angeles County Chamber of Commerce induced a top executive of the Filtex Company to survey the Los Angeles field. The result was an immediate purchase of a factory building suitable for manufacture of vacuum cleaners, and machinery was ordered shipped from the home plant in Michigan.

More Money For Mining

Upward revision of prices for strategic minerals and metals, which would enable thousands of marginal mines to operate is possible in the near future, because the large mines apparently are not going to be able to meet the demand. Zinc, copper, chrome, quicksilver and antimony are most needed. This is the news out of a meeting of the mines and minerals sub-committee of the U. S. Senate Small Business Committee with the Mining Association of the Southwest, a few weeks back.

better **M**ethods that use fewer hands



Automatic cotter pin inserting machine for chain belt manufacture assures greater accuracy and uniformity.

better **D**rives with Baldwin Roller Chain Belts

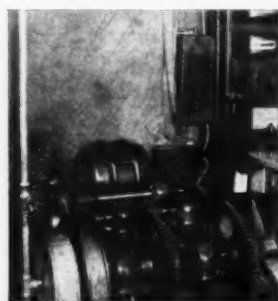
This and many other improvements in chain belts are of significance in the solution of drive problems which face every factory maintenance man. Baldwin Roller Chain Belts insure accurate, split-second timing, deliver virtually 100% efficiency, absorb all shocks and give perfect maintenance of speed ratio. In fact, *roller chain belts are the only type of transmission that can absorb shock loading without loss of speed ratios and efficiency.*

Baldwin-Duckworth offers a comprehensive catalog on roller chain belts for the transmission of power and conveying materials. But for specialized applications involving any machine which you may be redesigning or which needs greater drive efficiency, call in a Baldwin man. He will be glad to work with you.

BALDWIN-DUCKWORTH Division of Chain Belt Company, 352 Plainfield Street, Springfield, Mass.

Machine design methods, by taking over tedious and laborious tasks in industry, have helped to create in America a civilization which allows men to live as well as to work. An example of progressive machine design that solved a very difficult problem is this Baldwin-Duckworth cotter pin inserting machine for chain belt manufacture. It makes an automatic operation of a task that previously required much hand labor—and at the same time provides greater accuracy and uniformity in the finished product.

EXAMPLE



This chain drive using single, double and multiple strand roller chain gives:

1. Quiet, smooth operation
2. Positive transmission of power
3. No power loss due to slippage

IT'S BALDWIN-EQUIPPED

better **D**rives through
better **M**ethods

BALDWIN

ROLLER CHAIN BELTS

Coast Lumber Responds

So complete was the response of West Coast lumber mills to the government's call for a tremendous volume of boards for boxes and crates, due largely to the demands of munition factories, that 26 million feet of board orders have been transferred from the South to the West Coast.

Normally West Coast mills do not produce box material, and the natural place of the Douglas fir log in the lumber picture is as a source of construction items.

Production of West Coast lumber in April reached 108.5 per cent of the 1939-42 average, the continued gain since February being due to improvement in the manpower situation. Practically all logging operations are running 48 hours a week, while all mills that can get logs are on a 48-hour basis.

April brought signs that war plant construction is over the peak. This signifies that more lumber may gradually be made available for commercial trade, particularly to meet farm and railroad requirements.

Utah Payrolls Double

Utah's payroll for all industries has more than doubled in two years, while manufacturing and construction are running neck and neck for first place over all other groups. Figures of the Industrial Commission of Utah are \$102,797,000 for all industries in 1940, and \$207,178,000 in 1942. This does not include any portion of the federal payroll, which is estimated to approximate \$100,000,000 a year.

Manufacturing payroll increased from \$23,566,000 in 1940 to \$52,145,000 in 1942. Construction payroll was only \$5,010,000 in 1940, while in 1942 it was \$55,853,000.

The average number of workers per month for 1940 was 80,778 for all industries, as against 115,709 for 1942, while the total in November, 1942, was 138,211. The November figure on construction workers was 34,719, and for manufacturing 34,456.

More Utah Alumina

Utah is now to have a second aluminum plant, as a result of the discovery that the alunite deposits around Marysville are far more extensive than had been previously supposed. The RFC has granted a \$775,000 loan to Aluminum, Inc., a Utah corporation, to enlarge and re-equip the idle Moffat plant at Marysville, as a pilot plant to test thoroughly the commercial feasibility of the Moffat process, which differs in some important particulars from the kalu-

nite process used at the Salt Lake City alumina plant.

All alumina produced is to be sold to Metals Reserve Company for shipment to one of the aluminum plants in Washington. Initial output will be 30 to 40 tons a day. Bennett R. Bates, now chief adviser on aluminum to the Board of Economic Warfare, has been named manager of the Marysville plant, and will be assisted by Ralph Moffat of Washington, D. C., who holds the patents on the process. These have been assigned to the RFC to partly secure the loan.

Kaiser Steel Mill Tapped

Production of steel at the Fontana mill began May 14, eleven months after construction started. The steel was drawn from the first of six 185-ton open hearths housed in a 500x700 foot building. Five hearths will be stationary, one tilting for special quality steel. The building also houses material storage bins, 200-ton ladles for pouring 3,500 to 16,000-pound ingots, cranes, charges and other equipment. The rolling mill is yet to be completed, while the blast furnace for pig iron began operating last December.

Shipbuilding Records

Seventy-eight ships were delivered to the Maritime Commission from shipyards on the Pacific Coast in April, an all-time high in number and tonnage. In addition, California Shipbuilding Corporation at Wilmington, California, broke all previous national records for a single yard by delivering 19 Liberty ships, while Oregon Shipbuilding Corporation of Portland was second with 17 Liberties. The latter continues to lead in the greatest productivity per way, with 17 ships from 11 ways.

Plastics In Demand

Synthetic resins — plastics developed largely in Southern California—are being used as substitutes for critical metals and making large savings in man hours, the Southern California War Production Clinic last month was told by R. B. Springfield, process engineer for Consolidated-Vultee Aircraft Corporation. He said cast resins are now being used for stretch press dies in moulding aluminum and for shaping windows in the noses of bombers. Used for drophammer punches, cast resins save six times their weight in lead, and used as sprinkler heads in cooling towers, one-half pound of resin replaces five and one-half pounds of brass.

Manufacturing Trebles

California manufacturers have almost trebled in value of output since 1939 and the number of wage earners has more than doubled, according to a survey prepared by the Research Department of the California State Chamber of Commerce. Estimated value of manufactured products in 1939 was \$2,798,178,000; in 1942, \$8,400,000,000. Average number of wage earners increased from 276,000 to 671,200, and wages paid from \$365,110,000 to \$1,473,749,000.

California, with a grand total of \$11,856,048,000 in war contracts and allotments, including the additional contracts awarded during January and February, now holds 10.40 per cent of the contracts awarded nationally, and leads its nearest competitor, Michigan, by nearly a half a billion dollars.

For the three Pacific Coast states, the cumulative total, according to the Chamber now stands at \$16,368,821,000, or 14.36 per cent of the national total.

Montana Steel Plant

Another western steel plant in addition to the Everett, Wash., project is being promoted by a group of Montanans who have formed Yellowstone Metals, Inc., of Billings, Mont. The corporation's avowed intention is to develop iron deposits in Montana and to establish blast furnaces, rolling and finishing mills in the central part of the state. Lieutenant Governor Eaton is a director and the project is said to be backed financially by the Devonian Oil and Gas company.

Toluene and Butadiene

Standard Oil Company of California already has in operation its \$9,500,000 plant for toluene, a prime ingredient of TNT, and in September its synthetic rubber plant in Southern California will be turning out butadiene. Production capacity of the latter is 20,000 tons a year. The toluene is produced synthetically from petroleum under a new catalytic process much cheaper than the coal tar by-product used in the last year. Butadiene is hydrocarbon gas which when mixed with the component styrene forms synthetic rubber.

Grain Alcohol Factory

A grain alcohol plant to use more than 7,000,000 bushels of soft wheat and barley annually is to be built shortly on the Columbia River somewhere between Pasco and The Dalles, according to reports from Spokane. Construction work is to be done by J. A. Terteling & Sons, Idaho contractors, and estimated cost is \$1,800,000.

L. A. and Portland Find Absenteeism Remedies

YESTERDAY Bill Smith was absent. When he reported to the personnel office this morning, he explained he'd had "a lousy headache."

Ordinarily, that would list Bill as absent on account of illness. But Bill has a record of such absences, and his excuses run pretty much the same. In the Personnel Department he's put down as a chronic AWOL employee.

Before we put a handful of Nazi money in Bill's next paycheck, or label him a production line "deserter," let's check up on what gives Bill that "lousy headache."

In the first place, Bill is bored. He's normally a quick worker. He likes to have stuff move along. But at his bench there are frequent pauses while Bill waits for the next part to come to him. Also he's disdainful of the loudspeaker announce-

By **RANDOLPH VAN NOSTRAND**
Director of Public Relations
Merchants and Manufacturers Association
Los Angeles

ments urging full steam ahead on production. Isn't there a carload of finished parts just sitting on the loading dock? Hasn't that completed stuff been out there several days? Where do they get this hurry-up hooley?

"And suppose I do take a day off once in a while. Who's going to miss me? I'm just one guy in several thousand!"

No wonder Bill had a headache. His morale has been beaten down by three things he doesn't understand; three things which only management can cure. Bill is suffering from poor placement, lack of proper induction to his job and ignorance of production problems.

Management itself has suggested a number of ways in which it can improve its employment relations. These were emphasized, early this year, when the Area Director of the War Manpower Commission asked the Merchants and Manufacturers Association of Los Angeles to make a survey of the causes of Absenteeism in the county's war production plants. Both management and labor unions cooperated in this survey, which developed the following information on the causes of lost time and the degree of their importance:

Illness and accident.....	35%
Excusable personal reasons.....	15
Voluntary or AWOL.....	30
Community causes.....	5
Management causes.....	15

The management causes reported include poor induction to the job, poor placement, inadequate supervision, unex-

ABSENTEE AND TARDY RECAP										THE STANDARD REGISTER CO., DAYTON, OHIO									
SHIFT 1st		DEPARTMENT Punch Press		MONTH OF April, 1943															
NO.	NAME	START TIME	WEEK OF 4-3-43	WEEK OF 4-10-43	WEEK OF 4-17-43	WEEK OF	WEEK OF	WEEK OF	WEEK OF	WEEK OF	WEEK OF	WEEK OF	WEEK OF	WEEK OF	WEEK OF	WEEK OF	WEEK OF	WEEK OF	WEEK OF
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416	B. Garvey	"																	
417	J. Summers	"																	
418	R. Brown	"																	
419	M. Baynes	8:00																	
421	D. Rosenberger	"																	
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423	B. Criss	"																	
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plained production delays and poor production planning.

Management, of course, has been interested in the correction of all the faults which bring about the daily 30,875 man-days lost in Los Angeles County war production through Absenteeism; management has prime interest in the 4,600 man-days lost time chalked up against management causes by the survey.

So, before tackling the problem of the AWOL worker, before going to the community for a public opinion drive against production line "deserters," Los Angeles management is studying a "Blueprint for Self-Improvement."

Here are eight points which the Blueprint poses to management as worthy of study and self-analysis:

1. Keeping of Proper Records

Time cards, payroll lists or personnel cards may be the basis of the record system. Management cannot segregate absence by cause, nor isolate the chronic absentee without good records. But mere keeping of records is not sufficient. Like all material placed in files, it is valuable only as it is studied and used.

2. A Proper Method of Inducting the New Employee to the Job

Few companies have adequate procedures. This makes for confused, uninterested workers.

Ideal management recognizes the prospective employee is an individual, and a future part of the business. He is given a broad picture of the company, what it makes, the importance of its product. He is shown the importance of his own future job, and where it fits into the over-all picture. He is given the shop rules and procedures, and then taken on a personally conducted tour of the plant where he will work. He meets various foremen who explain what their departments are doing. He is introduced to the workers who will be his department mates.

Such a process takes time. That time is not wasted. It is invested. It is a copper riveted guarantee that John Jones, new employee, is starting his job with high morals and pride in his company and the work he is doing.

SELF RATING SCORE CARD

(Allow yourself 5 points for "Good"; 3 points for "Fair"; 1 point for "Poor"; 0 points for "Not at all")

WE RATE

Proper Records.....[]
Proper Induction.....[]
Job Description & Point Evaluation.....[]
Production Planning.....[]
Safety Program.....[]
Health Program.....[]

30 pts.—Indicates sound personnel policy.
18 pts.—Pretty good.
Under 18 pts.—Improvement needed.

3. Proper Placement Procedure

Essential to proper placement is the writing of proper job descriptions, and the evaluation of those jobs on a scientific point system. This method not only determines the entire wage structure for the plant, but practically obviates the possibility of improper placement. Management, large or small, which has not acquired familiarity with this subject, will be amply repaid for time spent on it.

4. Good Supervision

This is a war time headache. Mushroom growth in war industry, the pressure of the problems of production and material, the hodgepodge of governmental agencies' red tape, and a growing shortage of even partially trained men, has placed terrific burdens on management. The only answer at the moment is in-plant training and upgrading.

5. Good Production Planning

Even sound and efficient production planning must be accompanied by an effective system of "employee intelligence" for maintenance of sound employee attitude. Employees want to know what's going on. Treat them as partners for dividends of loyalty.

Involuntary slowdown by employees, caused by production delays, beyond management's control and holding up entire departments, combined with failure by management to take employees into its confidence as to causes of such slowdowns, can set an all-time record for "cooling off" employee enthusiasm and morale.

6. A Working Safety Program

Casualties on the production front are as serious as those on the battleline itself. They steal manpower, add up in man-days lost, and are an ugly reproach against management.

7. Health and Hygiene

Added to normal problems in employee health and hygiene are the poor eating habits and physical condition of thousands of men and women working in industry for the first time. Most frequently reported reasons for illness are colds, sore throat, and stomach upsets, all tied in with improper diet. The young lady who depends on coffee and cigarettes for breakfast and a sandwich and a "coke" for lunch, is a menace to smooth production.

8. Morale

Good morale comes from pleasant working conditions, sympathetic supervision, pride in the company and the job. Good morale is a matter of plant public opinion where older employees encourage the newer. Sound public opinion within the plant can do more to encourage a will to work than any bonus offering and is a potent force in good work, good attendance and good production.

Contrast the effect of a money incentive with a plan built on sound psychology and good humor.

Company "A" offered a five per cent cash bonus weekly to all employees actually present on the job during the entire work week. They paid fewer than 25 per cent of such bonuses.

Company "B" awarded a poster of merit to the department having the lowest lost time record each week, and a "gremlin" award, another poster, to the department having the poorest records. Absence and tardiness report blanks to be filled out by the erring employee were made informal, but official. The tardiness slip, for instance, is headed, "Doggone! I'm late again!"; and on the line "Reason for Tardiness" the employee is urged, "Please try to be original."

Company "B's" lost time dropped fifty per cent in one month.

There's your blueprint. Want to rate yourself? Then use the self-rating score card, and best wishes for a high score in your company.

• **BASIC ABSENTEEISM RECORDS.** At left are shown two of the forms developed by Standard Register Company after an intensive study of the problem in about 40 plants. Minimum requirements of an effective absentee control record system disclosed by the survey were: (1) Adequate information. Simple record form suitable for fast writing essential for original information, with sufficient copies made at one writing to notify all parties concerned. (2) Complete notification. Everyone concerned should be notified simultaneously, so individual action can be taken immediately, if necessary. (3) Speed and simplicity. System must be simple because it often may be operated by persons unskilled in clerical work. (4) Centralized control. Personnel department should control absenteeism, to prevent possible collusion between foremen and employees and assure accurate results. (5) Time-lost record. Time when employee reports or expects to report must be recorded on absentee reports, to identify wilful absentees and to enable foremen to rearrange production schedules. . . . In a plant using this system, personnel department writes up the information (on the small form illustrated) as employees fail to show up for work; one copy goes to foreman, personnel keeps one, third copy automatically locked in the autographic register. If further information develops regarding the individual, another set of forms is written up. Executives and other employees instructed that all communications regarding absence and lateness must clear through personnel. Clock numbers, names and starting times of absent employees then posted from time-keeping clerk's list on absentee and tardy recap sheet (illustrated at left) departmentalized, coded for causes of absence. Any uncoded absences then are tracked down, by telephone, telegram or personal call.

Banish the Word

Says the Portland Committee

"It is now the consensus of your committee that the word ABSENTEEISM should be henceforth eliminated from all discussions, speeches and publicity. ABSENTEEISM infers slackerism and malingering, confuses the issue, stirs resentment and causes disunity. Your committee is convinced that lost man hours in war production are due almost entirely to the causes listed below rather than to any deliberate shirking, much less disloyalty, on the part of the American worker."

Keep It—It's Needed

Says Commander Hicks

"I am not able to agree that the word 'ABSENTEEISM' should henceforth be eliminated from all discussions, speeches and publicity. I feel that if absenteeism is to be controlled, it must be an item of continuing thought and activity. From records which have been made available, we note that the percentage of absences has recently been reduced. In order to keep the percentage of improper absences at a reasonable figure, I feel it will be necessary to continue to give attention to this item."

Portland's Community Committee Reports

BANISH the word "absenteeism," because it implies "slackerism"; the real causes for lost man-hours are largely other factors beyond the employee's control. So reasons the majority of a committee in Portland representing management, labor, the public, the Army engineers, the Navy, Maritime Commission, and the press.

On the other hand, the Army and Navy men do not agree. Col. Donald J. Leehey says there is a serious problem of deliberate absenteeism, for which both management and labor are to blame, and Commander E. N. Hicks believes retention of the word "absenteeism" is essential in order to forestall apathy in the face of a real danger.

Portland's committee, apparently the first of its kind in the country, was organized to formulate a program for reducing absenteeism. The main causes were named as ranging from fatigue, inadequate personnel policy, accidents, and other conditions in the plant through voluntary and involuntary absences to community situations, such as housing and transportation. Specific recommendations for developing morale were as follows:

DEVELOPMENT OF MORALE

by
SUPERVISION

I. Selection

- (a) Select on basis of merit only—
 - 1. Technical knowledge
 - 2. Leadership ability
 - 3. Attitude toward job
 - 4. Attitude toward men
 - 5. Cooperativeness
 - 6. Seniority (experience)
 - 7. Select supervision from the ranks

Do not select for—

- 1. Nepotism
- 2. Bribery
- 3. Personal favoritism

II. Training in Supervision Work

- (a) Training should be continuous
- (b) All supervisors are entitled to adequate training in order that they may—
 - 1. Understand company policy
 - 2. Interpret company policy
 - 3. Handle job and men in line with company policy

The Union has a right to know the company policy with respect to its employees

III. Follow through at periodic intervals to make certain that:

- (a) Company policies are being accurately and honestly followed
- (b) Supervisors themselves advancing where qualified
- (c) That mistakes in original appointments are corrected and in the right way

IV. Conduct

It is fundamental that supervision must set the example—

- (a) Integrity
- (b) Industry
- (c) Personal conduct
- (d) Attitude toward subordinates

DEVELOPMENT OF MORALE

by
UNIONS

I. The Unions, through every facility available to them, to undertake to impress on all members, particularly those with records of frequent job-shifts, the vital national need for their continuous and daily labor at their chosen trade—unremittingly and to the fullest extent of their ability, until all essential production necessary for the winning of the war has been completed.

II. The labor organizations, upon the lay-off of a worker for a specified period of time, for definite cause alleging deliberate or continued absence from work, malingering on the job, or other malicious practices serving to

reduce his rate of production, shall either sustain this action or refer the case to the Joint Appeal Board. Upon appeal, the Joint Appeal Board will investigate the facts and if the company is sustained in the lay-off, the Appeal Board will make a decision as to the period for which the worker should be laid off. The labor organization will guarantee to carry out this decision of the Appeal Board and will agree not to hire out such a man to any company, whether in war production or not, for the period established.

III. The labor organization, upon receipt of a weekly report from the Appeal Board, listing the cases decided under II, above, shall agree to prevent any worker whose name is mentioned on such list, from transferring from one Union to another, and shall further refuse to refer him for re-employment during such period of suspension.

Employers were urged to warn persons absenting themselves over one day a week without due notice, and to give merit badges to employees having six months of continuous employment without any lay-off. Employees were advised to give advance notice of laying off. Establishing of a pledge system not to be absent unless absolutely necessary and then only with advance notice was recommended.

The question whether admitting tardy employees for a half a shift period will help cure absenteeism was reserved for further discussion. Although it was declared that increase in liquor consumption had only kept pace with population growth, the possibility of bill-board publicity against excessive drinking is being explored.

Personnel of the committee is:

Management: L. R. Hussa, Albina Engine and Machine; J. O. Murray, Kaiser Shipbuilding; Timothy Wood, Jr., Willamette Iron and Steel; Robert McCulloch, McCulloch and Son; Gerry Weaver, United Metal Trades Association.

Labor: Jack Schlaht, Teamsters; Joe Lake, Electricians; John Gillard, Steam Fitters; L. A. Tronsdale, Machinists; William Smith, AFL Field Representative of Vancouver, Washington.

Government: L. C. Stoll, WMC Area Director; Col. E. V. Wooten, State Director, Selective Service; Comm. E. N. Hicks, Industrial Relations Officer, XIII Naval District; Col. Donald J. Leehey, U. S. Army Engineers.

Public: Mayor Earl Riley, ex officio; E. B. MacNaughton; Miss Nell A. Unger.

Press: Philip L. Jackson, The Journal; Palmer Hoyt, The Oregonian.

Joint Appeal Board: L. C. Rodgers, Management; John O'Neill, Labor; Reverend Thomas J. Tobin, Chairman.

Wastage and Loss

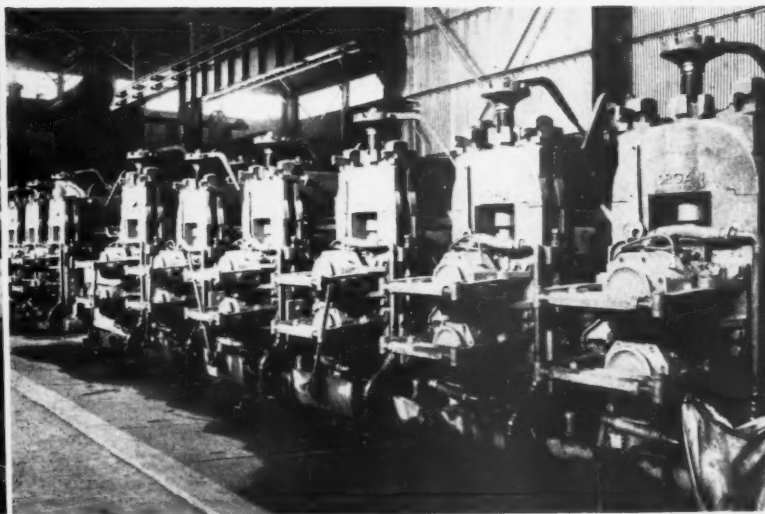
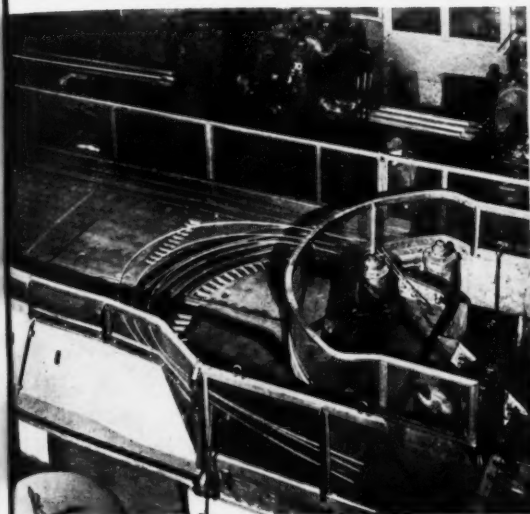
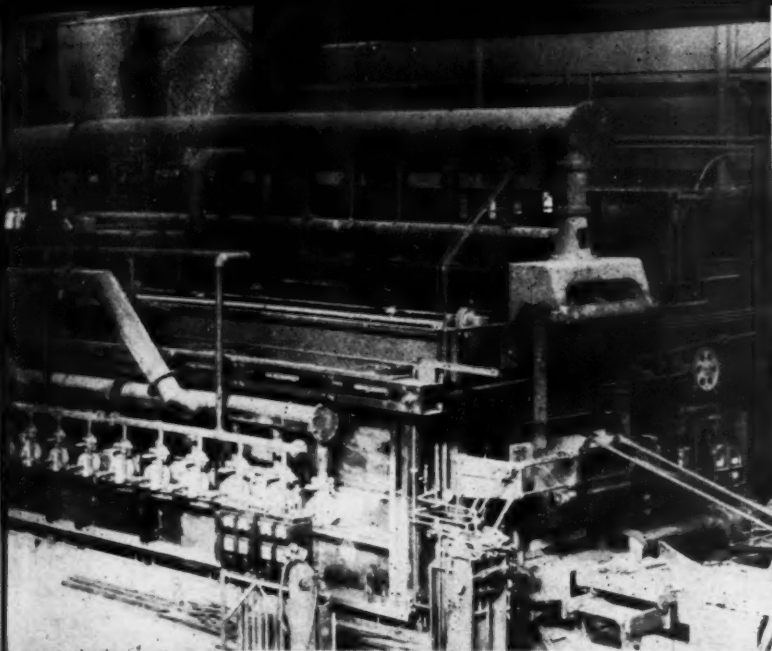
There is a serious problem of manpower wastage and production loss in the Portland area, today, due to a too-wide condition of deliberate absenteeism, unwarranted job-shifts, and lack of serious purpose on the part of a certain minority group of war workers.

Workers to Blame

The basis underlying this situation is the fact that such workers do not seriously value their jobs from a financial standpoint; that they do not closely associate the matter of their employment with the overall war program; and that they have not been impressed as to the nation's dire need for their unremitting daily efforts in that work for which they are best qualified.

So Are Employers

This condition is aggravated and materially contributed to, by the fact that some employers tolerate this condition, fail to lay off workers for deliberate shirking, and continuously carry extra workers on their rolls as a hedge against possible future loss of workers; thus creating the impression that full effort is not needed or expected of each individual worker.



• (Top left) Furnace. (Top right) Apron conveyor for finished rods. (Lower left) Three strands of rods being looped into semi-continuous intermediate stand. (Lower right) First nine roughing stands.

New Rod Mill For Columbia

THE most modern continuous type rod mill for three-strand rolling in the United States has been completed and put into operation at Pittsburg, California, by Columbia Steel Company.

It produces rods at a great speed. Rods produced from red-hot billets, 30 feet long, weighing 600 pounds, pass through the last finishing stand to the reels at a rate of 48 miles per hour. At this speed, size No. 5 rod nearly a mile long is delivered to the reels in about a minute from the time the billet leaves the suspended arch-type furnace.

Operation of this high quality production mill, which furnishes rods to the adjacent Columbia Steel wire mill, now humming day and night to fill war time orders, is continuous from the time the cold billet enters the furnace to the placing of the finished bundle of rods on the shipping platform at the end of the mill.

The new rod mill is a complete separate unit from the rest of the rolling mills and is served by its own auxiliary equipment. The roll shop for shaping and renewing the rolls is entirely modern in every respect. Seven of the nine main drive motors are housed in a separate motor room, which is air conditioned to remove the heat of the motors, protecting them from dust and other abrasives in the air. A water recirculating system is provided, made up of a settling tank, a clari-floculator tank, cool-

ing tower, and suitable pressure pumps for returning the water to the mill, so that only make-up water is required.

A quick roll change feature of the new rod mill is the conventional type of wobblers with the innovation of built-in universal drives on the coupling boxes and spindles, which minimizes loss of time for roll changes, together with smooth vibrationless running of the mill.

The furnace has an hourly heating capacity of 50 tons, insuring a steady flow of standard length billets of 30 feet. There are 21 stands, divided into nine roughing stands, six intermediate roughers and six finishing stands.

Speed of the mill is controlled by a main control pulpit that keeps the entire mill synchronized. The pulpit operator has a view of the entire mill from his station.

Nineteen Shop Experiences Before Assignment To Job

California Army Air Depot First in Country to Institute Selection Program for Trainees

TO MAKE certain that employees are trained for work for which they have an aptitude and interest, the San Bernardino Air Depot, which was the first in the country to institute a selection program, routes all new civilian trainees through 19 different shop experiences before receiving definite assignments. Each experience is a sample job that has been selected from a special training course.

Complexity of the job of maintenance and repair, and the necessity for adequate training for this Army Air Force service, is indicated in the fact that maintenance engineering must concern itself with 256 different models of airplanes, 157 different model engines and nearly 1,000 different accessories. Approximately two-thirds of all employees at an Air Depot are assigned to the maintenance division, doing actual work on aircraft or aircraft equipment.

Located on an 1800-acre tract just outside the city of San Bernardino, California, this depot is the Control Area Depot for the southwestern United States and has a staff of more than 10,000 civilians and several hundred officers. Its \$50,000,000 plant includes 120 buildings, of which the airplane repair building is one of the largest in the world. There are three concrete runways and a taxi strip each a mile and a quarter long.

Captain Harry C. Eckhoff, Civilian

Training Executive Officer, reports that the Depot has requests to train 7500 people for the maintenance division. The Depot has \$1,500,000 worth of equipment for use in the highly specialized training provided. Trainees are hired as mechanic learners and paid approximately \$120 a month while in training. For the most part the training courses are 90 days and each course trains a learner to do one specific type of job. Some of the fields include:

A/C engines, A/C hydraulics, A/C instruments, A/C mechanics, paint and dope, sheet metal, welding, wood working, machinist, parachute, propeller, starters, generator, A/C electrician.

The various shop experiences which precede the actual training include sample jobs in:

Carburetors, aircraft disassembly, aircraft electrician, wood shop, welding, tubing, drafting, engines, wire cable, measurements, ignition, fabric and leather, machine shop, paint and dope, sheet metal, hydraulics, A & B standards, instruments, brakes.

For example, in the engine experience the trainees do a manipulative job on a five-cylinder Kinner engine. Each of the experiences is 4 hours long, done under the supervision of instructors, who rate the trainees. Trainees also rate themselves on their interest and ability.

To supplement this information a battery of tests is given, including vision, intelligence, and mechanical aptitude.

With the aid of the information gained from the results of the shop experiences, the Selection Unit, and the tests, counselors recommend what specific training the individuals are best fitted for. Trainees are then enrolled in such specific training classes as A/C engines, A/C mechanics, or one of the other 20-odd fields.

Each new trainee spends about ten days in the Selection Unit before being assigned to specific training. This practice practically eliminates failures on the part of trainees after being assigned to a specific training course.

Average daily attendance in the Selection Unit is between 250 and 300, with from 15 to 60 new recruits daily. Approximately 75 per cent are women and 25 per cent men. The average age is 34; the average IQ is about 90.

The remaining one-third of the civilian employees will be working in the supply, headquarters and miscellaneous units of the depot, receiving, storing, issuing and shipping aircraft supplies and materials, and doing the necessary paper work involved. At present the SBAD Supply Division handles over 80,000 separate items. Within a short time the stock records will be expanded to include 300,000 items all of different descriptions and purposes, ranging from paper clips to huge Pratt and Whitney motors.

For supply, the training program consists of specific job training for shipping

(Concluded on Page 22)



20-ton Scrap Crane Saves 18 Months

• "Big Scrappy," illustrated at the left, is a heavy-duty overhead crane put together in three months out of scrapped and salvaged parts in the Oakland Maintenance Division of General Metals Corporation. Overhead beams or girder came from an isolated abandoned power house of the Utah Power and Light Company. Power for the bridge supplied from a motor in a deserted rock quarry in Nevada, another motor from a damaged crane at Shasta Dam furnishes power for the hoist, and a third from a lumber mill in the wilds of Washington motivates the trolley drive. Hoist brake salvaged from an old gold mine hoist in Angels Camp, Calif. An old welder found "somewhere in southern California" provided the limit switch contactor. Secondary resistors assembled from salvaged parts in the General Metals shop. For the first time in crane construction, all cab wiring is accessible in the covered barring gutter to facilitate servicing and trouble shooting, eliminating condulets.

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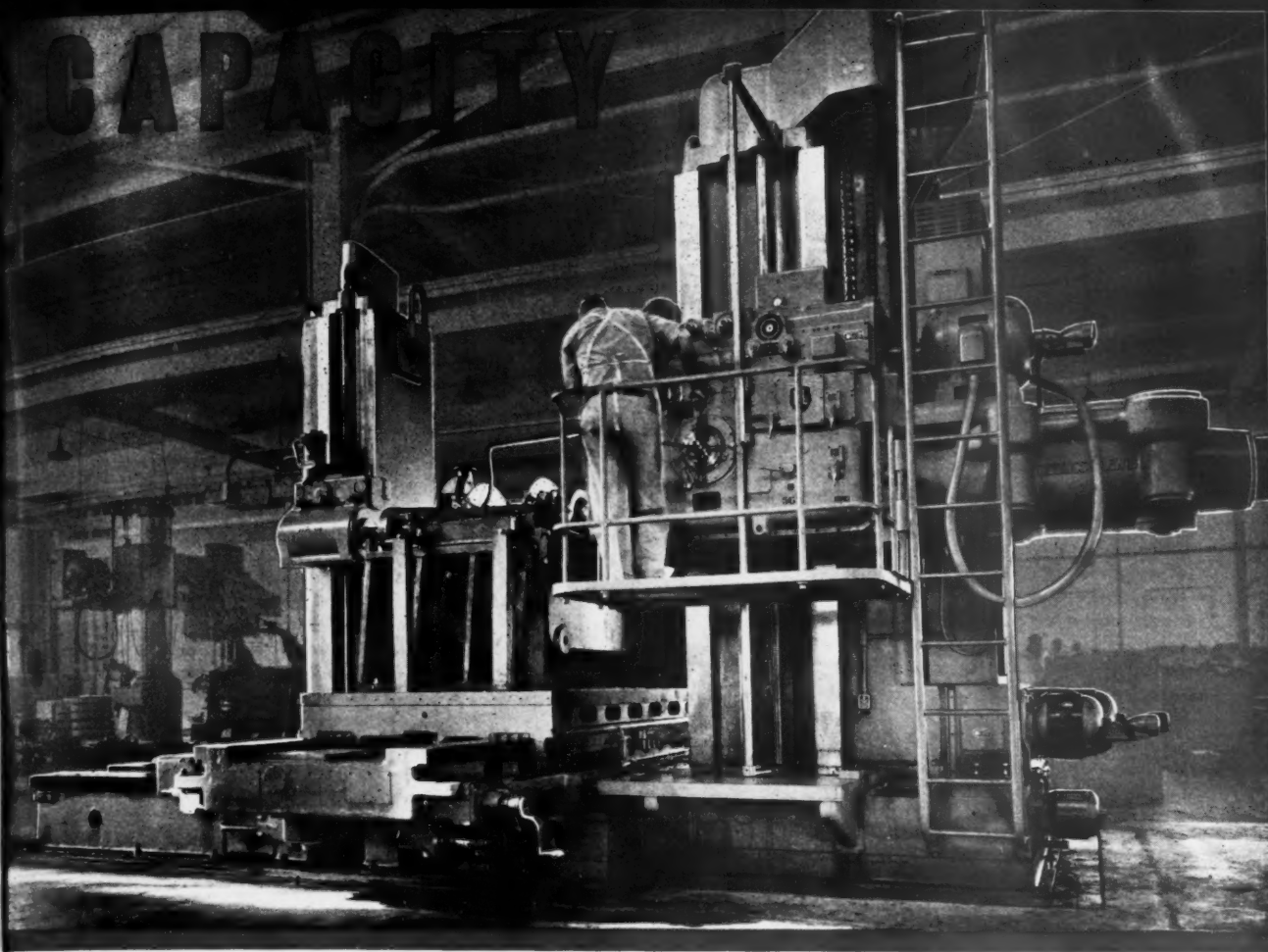
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GETTING DOWN TO CASES

Today, jobs involving high torques or heavy horsepowers are generally enclosed in oil-tight, dust-proof, housings or cases. Gears and cases must be machined and aligned to very close tolerances by the gear manufacturer.

We have been ahead of Pacific Coast requirements in this respect. Our four modern gear plants are set up to handle large gear transmissions, reduction or propulsion units from design to delivery of gears, bearings, shafts and cases, complete in one unit.

Above, is a Giddings and Lewis, 6-in. spindle, Horizontal Boring Mill with 60 by 104-in. bed. It is one of the largest mills of this kind in the West. This machine is one of several mills in our Lynwood plant. It is used to bore and machine with absolute accuracy large gear cases for ship propulsion gears. Some cases weigh as much as 10 tons.

When your problem is power transmission, order the whole job, complete with assembled gear cases, engineered exactly to your needs.

We have the **CAPACITY** to handle your largest requirement.

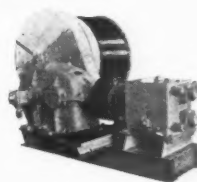
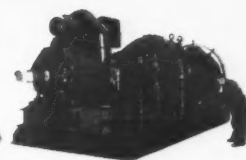
WESTERN GEAR WORKS

417 NINTH AVE. SOUTH,

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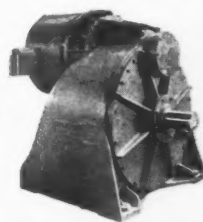


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PACIFIC GEAR WORKS of LOS ANGELES

AIR DEPOT TRAINING

(Concluded from Page 20)

clerks, storekeepers, receiving clerks, stock record clerks, inspectors, mail file and record clerks, purchasing and contracting, personnel, inventory clerks and other miscellaneous clerical positions.

Courses vary from two to six weeks in length. The first week is devoted to an over-all picture of supply for every trainee and to take a battery of tests, including IQ. The average IQ of the 1,000-odd people, 95 per cent of them women, trained in supply work since last August is 100, the average age 35.

After the first week trainees are counseled into specific job training for which they are mentally and physically best fitted. Much of the training is actually on-the-job at depot supply under the supervision of a training coordinator.

All that is necessary to be eligible for this training program is to pass a simple civil service under clerk test. Answering 40 questions out of a possible 100 is considered a passing mark.

Importance of training clerks to be extremely accurate in their work is pointed out by Captain Eckhoff. For example, a clerk in Washington typed the letters SAD when he should have typed the letters SAAD. The result was that a building was erected at SAD that should have been at SAAD.

As there are no instructional materials available for the specific job training required, each depot has had to create its own instructors' manuals and teachers' aids, and the manuals written by SBAD for air corps property accounting, inventory, inspection and warehousing were recently selected by the Air Service Command as the best manuals produced by any depot in those fields, and all depots have been requested by the ASC to use San Bernardino manuals in their training programs in the three fields mentioned.

They are also training typists, stenographers and other miscellaneous office help for various offices of the Depot. Since August over 600 office workers have received instructions in military correspondence, war department filing, military forms, customs and procedures as well as additional instruction in typing, shorthand and other office skills. Present request is that they train 25 a week in the fields just mentioned. The training period is from 2 to 6 weeks and anyone who can type at least 20 words a minute is eligible for this program.

"Most business educators seem rather disgusted when I say we will employ anyone as an under clerk typist if he can type as little as 20 words a minute," says Capt. Eckhoff. "It really is not as ridiculous as it sounds, however."

Last August, although there was a great

shortage of typists, Civil Service was employing only those who could type at least 35 words a minute for jobs at the Depot. It was decided to employ the sub-eligibles—the people that failed the civil service tests—and give them additional training. Twenty words a minute was accepted as the minimum typing speed in order to be eligible for the typist trainee pool.

The training program consisted of four hours a day of typing training, a 24-hour course in military correspondence, a 24-hour course in war department filing and shorter units in military courtesy and customs, office ethics and military forms and procedures. Trainees were not sent on the job until they could do the 35 words a minute required by Civil Service, and then were sent on trial to various units of the Depot before being permanently transferred to a specific office. By this method the Depot has been able to secure over 500 additional trained typists since last August.

Most offices of the Depot prefer to get their typists from the trainee pool rather than typists from Civil Service who can immediately do the 35 words or better per minute due to the fact that these typists know military correspondence, filing and army procedures. A great many offices are sending their expert typists to the pool for a two weeks course in military correspondence and war department filing.

About 95 per cent of all the people in both the supply and headquarters training programs are women. As a matter of fact, over 60 per cent of the entire personnel of a depot will be women. Even the maintenance division—where actual repair work on places is being done—estimates that 45 per cent of its personnel will be women.

In addition to these major training programs in operation at SBAD, the Civilian Training Branch also maintains an extensive teacher training program for its 200-odd instructors, job instructor training, foremanship training and a one-day orientation course for all new employees of the Depot.

Tacoma Organizes War Clearing House

A War Industries Coordinating Committee has been set up in Tacoma to act as a clearing house on all matters affecting war industries in order to achieve greater production records. Manpower, transportation, adequate housing, merchandising hours, industrial safety, removing causes for absenteeism and all-around team-work between labor and management will come before the group for fair discussion and disposal.

The inspiration for such a committee came from the Central Labor Council, and was unanimously approved by the execu-



PAUL H. SCEVA
Chairman, Tacoma War Industries
Coordinating Committee

tive committee of the Chamber of Commerce.

Paul H. Sceva, general manager of the Rainier National Park Co., is chairman of the committee, and H. S. McIlvaigh, executive secretary, Tacoma Central Labor Council, is secretary.

Membership of the committee is as follows: Public at large: Mr. Sceva and Martin Traub, secretary-treasurer, Medosweet Dairies, Inc.

Industry: George F. Kachlein, Jr., assistant general manager, Seattle-Tacoma Shipbuilding Corporation; F. C. Hansen, treasurer, J. M. Martinac Shipbuilding Corporation.

Labor: Mr. McIlvaigh; Donald C. Ahrens, executive secretary, Tacoma Metal Trades Council; Ray Moiso, executive secretary, Tacoma Building and Construction Trades Council.

Government agencies: R. Roy Smith, WMC; Lieut. Homer A. Bergren, 13th Naval District industrial relations office; Lieut. J. Farrell, regional labor officer, 9th Service Command, U. S. Army.

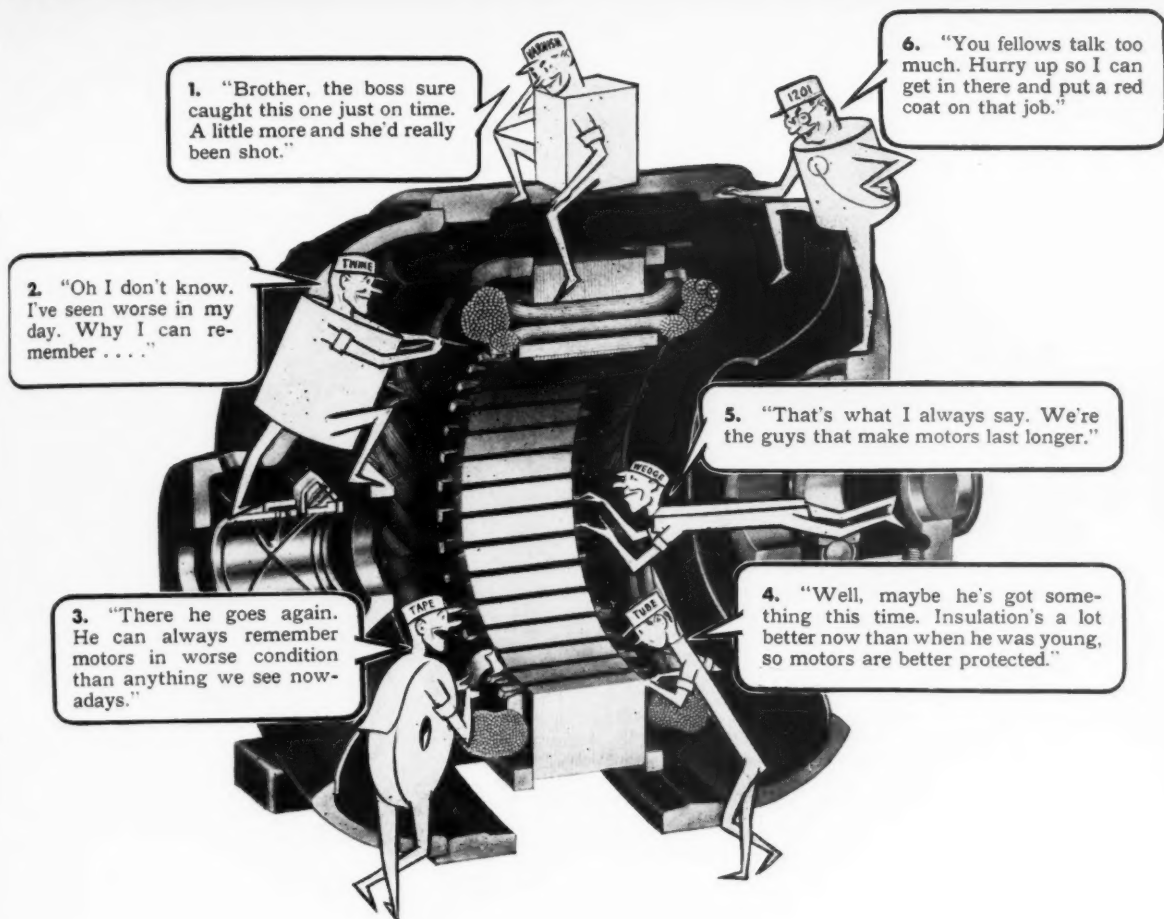
Columbia Steel Pig Plant Ready

Columbia Steel Company has completed removal of an idle blast furnace at Joliet, Illinois, formerly used by the Carnegie-Illinois division of U. S. Steel Corporation, to Ironton, Utah, where it has been set up in readiness for making pig iron as soon as the government gives notice that requirements in the Pacific Coast area necessitate its use. A bee-hive coke oven plant at Columbia, Utah, was built for the necessary coke supply, and the two projects involved an investment of \$9,200,000. They are separate from the new steel plant being erected at Geneva.

Momentarily there is enough pig iron on hand for coast needs, Columbia having more than 100,000 tons in storage in Utah and the Kaiser mill at Fontana a large amount also. On the other hand, Representative Robinson of Utah reported, after talking with WPB officials in Washington, that "there is dire need at Pacific Coast mills now for all the pig iron Utah can produce."

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GENERAL  **ELECTRIC**

Self-Support the Only Sound Post-War Basis

Private Enterprise Must Begin Its Plans Now in Order to Prevent Stifling By Government

APPEARING currently in publications of all kinds are articles which suggest many solutions for the employment and relief of the hundreds of thousands who will some day return from war looking for jobs and some semblance of orderly living.

The conclusions reached depend upon whether the viewpoint is that of government or industry.

Emanating from high places are plans for government sponsorship of the whole problem. Indeed, it is a responsibility of the government to provide against chaotic conditions affecting the nation as a whole, but in assuming entire responsibility the government will inevitably take control of and regulate all enterprise.

We have been softened and regulated to the point where bureaucratic control can

By WARREN E. HOYT
Southern California Sales Manager
American Lumber & Treating Co.

follow without resistance, and may some day awaken to a situation in which private enterprise has been stifled unless we plan now for the future.

Private enterprise can be maintained without the restricting bonds of complete governmental control. There are still plenty of fearless individuals among us who believe in the freedoms, and in the fundamental laws that enable industry to be self-supporting, even gainful.

Before letting over-enthusiastic politicians select projects and establish funds, we must visualize ourselves in the Post-War Period. We know that there will be a surplus of manpower. It is safe to say that at least half of the men returning from war fronts will not find immediate employment.

To take care of this surplus, we should give these men a chance to establish themselves on tracts of land in carefully selected farming districts where they can eventually come into ownership and be self-supporting. This could be patterned after the *Rural Rehabilitation Plan*. Thus, large numbers would be taken out of congested cities and made productive. There will be thousands of young couples who are anxious to be married, or are already married, who would welcome such an opportunity.

There will be large quantities of surplus materials left over from the war which can be used for building homes, farm buildings and establishing rural communities which would be not only self-sustaining, but gainfully so. China and other countries would eagerly absorb much of the war material left on our hands and free our markets from competition with salvaged goods.

With large numbers removed from cities, the rest of the unemployed could then be taken up by industry and into urban life. Wages will drop, probably to a level unsatisfactory to workers used to big pay-checks, and many readjustments will have to be made. By operating on some sort of profit-sharing plan, industry could pay living wages and be assured of faithful cooperation by employees.

We shall find ourselves with greatly increased production of many articles for

Need Western Bloc

"I am convinced there is a Western viewpoint. We here in the West are a long way from Washington," said Governor Earl Warren of California, speaking at the regional conference in San Francisco April 30 of the National Council of State Governments. "We here in the West are a long way from Washington. I am convinced our situation on the West Coast is not thoroughly understood in Washington, and the best way to make it understood is for government representatives to get together as we have done."

which the demand has ceased. Re-tooling will put this production into other channels. Enterprises will be engaged in replacement of depleted stocks of essentials, providing new housing, improvements to our public works, construction of transcontinental highways, and production of materials for the rehabilitation of other countries. All efforts should be directed toward the creation of projects which will carry themselves and not be a burden to taxpayers.

It will be difficult, indeed, to convince the vast number of job holders in government agencies that their services will no longer be required. Drastic action, backed by public opinion, will be needed to shake down to normal the top-heavy structure created by the war emergency. Needless to say, thousands of government employees will strive to justify continued existence for their agencies, hoping against hope that their functions will be "essential to the peace effort" just as free enterprises have had to show them that their activities were "essential to the war effort."

What the Cities Can Do

By HARRY P. CAIN

Mayor of Tacoma

Now on leave as a major in the Army

No man should be rash enough to say that we should give no consideration now to the problem of what to do with an army and navy of 15 million men and an industrial army of 20 or 30 million more men and women when they are demobilized from the armed services and from war industries. To have no plans at all for conversion to peacetime pursuits is to invite the worst kind of chaos or revolution.

I think a public works program will be imperative, and a very huge public works program at that, because we are going to need a very big shock-absorber. For cities, it may mean nothing short of the complete rebuilding of our metropolitan areas, an entirely new concept of urban redevelopment, a complete modernization of our transportation system, business centers and residential areas.

I look for legislation which will permit the following:

(1) Permit cities to acquire land in advance of its needs based upon well conceived plans for the construction of necessary improvements such as airports, etc. (2) Permit cities to acquire property by right of eminent domain and obviate the difficulties which now exist to prevent such acquisitions. (3) Authorize the acquiring of land for private or public use either inside or outside of the city limits. (4) Work out some means of taxing those people who are moving out of the city into the areas adjoining the city and who are continuing to enjoy all the rights and privileges and facilities that the city offers. (5) Extensive revision of tax system to relieve burden on real estate.

"Work-Pile Plan" for San Francisco

San Francisco Chamber of Commerce, under the direction of President Ernest Ingold, has launched a plan for canvassing all industries in the city to determine their post-war needs in employment, housing, equipment and supplies of all kinds, to furnish a "work-pile" of prospective orders. Thus the Chamber will be able to determine for the benefit of all, approximately how much business in each line will be in prospect. Much of the financing is expected to come from government bonds purchased now. An over-all planning committee for the entire San Francisco Bay district is in prospect.

More Post-War Names

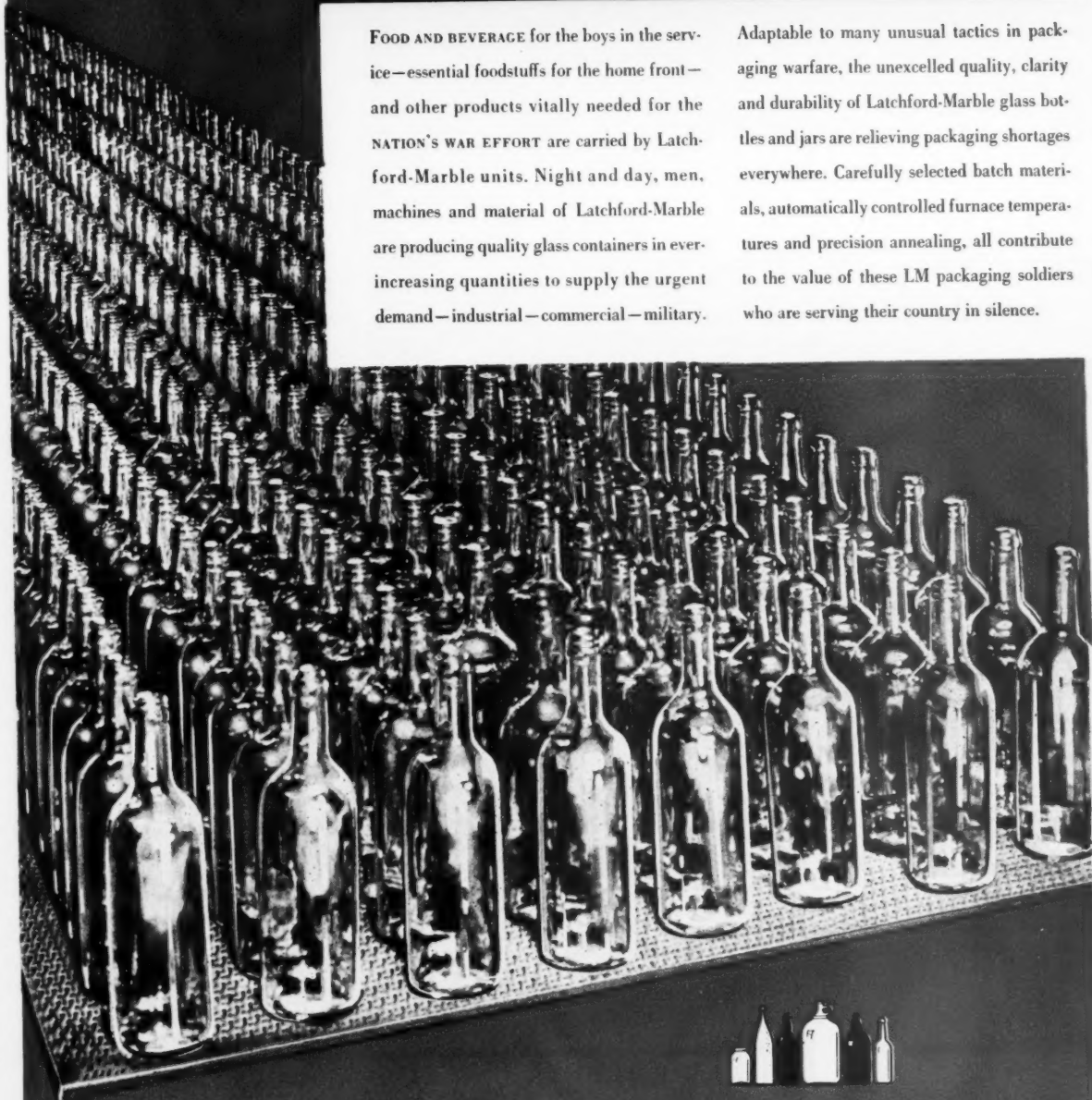
The following names of firms and persons interested in post-war planning additional to the list published in the April issue of *Western Industry* have been received:

A. A. Kearney, Inland Empire Industrial Research, Inc., 417 Peyton Bldg., Spokane, Wash.
C. L. Walker, Chamber of Commerce Bldg., Grand Junction, Colorado
Robert Philippi, Union Oil Co., 617 West 7th Street, Los Angeles
Seattle Chamber of Commerce, Post-War Planning Committee, George K. Comstock, chairman.

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Left-hand end of speakers' table, from left to right: J. F. Pollard, pres. Seattle Gas Co.; W. W. Williams, pres. Continental, Inc.; J. L. Locke, Fisher Flouring Mills Co.; Cebert Baillargeon, pres. Seattle Trust & Savings Bank; Harvey Saul, dir. industrial relations NAM; R. W. Vinnedge, pres. North Bend Tbr. Co., and vice pres. Federated Industries of Washington; Elmer Todd, publisher, The Seattle Times; W. Leuthold, pres. Deer Park Lbr. Co.; Joshua Green, chairman, Peoples Natl. Bank of Washington; U. M. Dickey, pres. Soundview Pulp & Paper Co.; E. R. Hinton, vice pres. mgr. Olympic Steel Works; F. C. Crawford, pres. Thompson Products, Inc., Cleveland, and pres. NAM; E. I. Garrett, pres. Wire Rope Mfg. and Equipment Co. and regional dir. NAM.

TACOMA



Left to right: G. T. Pierce, National Bank of Washington; R. A. Mueller, Mueller-Harkins Motor Co.; R. L. Renwick, Mueller-Harkins Motor Co.; W. C. Baldwin, sales mgr. Mueller-Harkins Motor Co.; K. L. Bates, General Hardwood Co.; Harold J. Dille, National Bank of Washington.

N A M

SEATTLE AND PORTLAND

Following the regional meeting of the Association held in Los Angeles and San Francisco, featured in the May issue of WESTERN INDUSTRY, meetings were held in the Pacific Northwest at Tacoma and Portland. Herewith are reproduced some of the scenes taken by WESTERN INDUSTRY at the

← SEATTLE

TACOMA



Head table, left to right: W. J. Muckey, mgr. Industrial Relations NAM; E. G. Griggs, dir. Paul & Crawford, pres. NAM; A. T. Crutcher, pres. Board of Tacoma; W. B. Weisenburger, exec. v. NAM; Co.; R. C. Smethurst, general counsel, NAM; George Lang, foreground, clockwise, (beginning with man with tie to m... and trustee Tacoma Industrial Conference Board Mrs. T. A. Mrs. L. T. Murray; Mrs. F. C. Crawford; Mrs. Gerald Mc... Borden; Mrs. J. H. Gilpin; R. C. Borden, Northern Chair C...

← PORTLAND

Left to right: Mrs. Pat Mulligan, Albina Engine & Machine Works; Chief H. E. Rice, U. S. Coast Guard; C. O. L. Cooper, U. S. Navy; James Westergard, Willamette Iron & Steel Corp.; Sgt. Chandler, U. S. Army; V. R. Churchill, asst. to publisher, Oregon Journal; Cletus McDonough, manpower utilization consultant.

Left to right: Geo. Langlois, NAM; S. E. Fletcher, pres. Columbia Empire Industries, Inc. and mgr. Continental Baking Co.; Mayor R. E. Riley; E. C. Sammons, vice pres. Iron Fireman Mfg. Co.; F. C. Crawford, pres. NAM; R. B. Ambrose, pres. Columbia Empire Industries, Inc. and vice pres. Portland Woolen Mills.



Meetings

TACOMA PORTLAND

meetings of the National Manufacturers Association in Seattle and San Francisco, which were the first of the WESTERN INDUSTRY, three more meetings in the Northwest, at Seattle, Tacoma and Portland. Some interesting pictures are reproduced from these various meetings.

SEATTLE



Right-hand end of speakers' table, from left to right: W. B. Weisenburger, exec. vice pres. NAM; G. K. Comstock, pres. Electrical Products Cons.; J. A. Swalwell, pres. Seattle-First Natl. Bank; G. R. Langlois, Western mgr. NAM; W. K. Hopkins, reg. dir. WMC; Howard Parish, publisher The Seattle Star; J. H. Bloedel, pres. Bloedel-Donovan Lbr. Co.; Father F. J. Corkery, pres. Seattle College and public member of 12th reg. WLB; Darrah Corbet, pres. Smith Cannery Machines Co. and pres. Washington Metal Trades, Inc.; George Gunn, Jr., pres. Webster-Brinkley Co.; John Eddy, Port Blakely Lbr. Co.; J. D. Tennant, Long-Bell Lbr. Co.; H. B. Jones, attorney, Jones & Bronson; M. B. Houston, exec. vice pres. Rayonier, Inc.; C. B. Rose, secty-mgr. Federated Industries of Washington.

TACOMA



Left to right: (beginning with man looking up and toward the camera) F. E. Jeffries, Blake, Moffitt & Towne; Reno Odlin, pres. Puget Sound Natl. Bank; Philip Garland, pres. Oregon-Washington Plywood Co.; J. H. Gonyea, Northwest Door Co.; C. T. Eckstrom and A. L. Matthews, both of Monarch Door & Mfg. Co.; E. N. Eisenhower, Tacoma Industrial Conference Board; Sam Stocking, Shaffer Terminals, Inc.; W. Hopkins, supt. Shaffer Terminals, Inc.; W. S. Anderson, pres. Home Electric Co.

TACOMA



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PORTLAND

Columbia
; Mayor
Co.; F. C.
re Indus-

Left to right: T. H. Banfield, dir. NAM and pres. Iron Fireman Mfg. Co.; Dr. I. G. Nace, exec. secty. Portland Council of Churches; W. B. Weisenburger, exec. vice pres. NAM; P. B. McKee, dir. NAM and pres. Portland Gas & Coke Co. and Pacific Power & Light Co.

Left to right: M. J. Frey, business mgr. of the Oregonian; Sgt. Olin F. Harris, U. S. Army; Geo. C. Deremer, Oregon Shipbuilding Corp.; Sgt. L. W. Guthrie, U. S. Army; W. M. Carl, War Savings Staff.



Industrial Revolution Of Pacific Northwest

EXTENT of the "industrial revolution" which has, at least for the moment, transformed the economy of Washington, Oregon, Idaho, and Western Montana is outlined in a report released by the National Resources Planning Board in Portland.

Employees in the Northwest's aircraft, shipbuilding and metallurgical industries had by eight months ago grown to more than 20 times the number employed in 1939, according to the report. The employment peak in these industries, when more than a quarter of a million workers in the region will be engaged, is still in the future.

In the two years up to last June, about \$3 billion in war contracts and expenditures had been allocated to the Pacific Northwest, the report discloses, giving the region half again as much as the national average on a per capita basis. The expansion brought about by these activities not only absorbed the available workers of the Northwest, including many who had migrated to the region during the previous decade, but attracted more than 200,000 additional people to the coastal areas. Even with this new labor force it is estimated that war industries of the Pacific Northwest may be some 100,000 workers short.

The report stresses the importance to the region of new manufacturing industries, such as the war industries, which involve greater processing and are therefore less dependent upon raw materials. Previously the regional economy had been based almost exclusively on resource exploitation, with successive depletion of minerals, fish, agriculture, and the forests. Now shipbuilding has surpassed even the forest industries as the number one employment-giver of the Pacific Northwest, with a probable peak of 190,000 workers this year, as compared with 1,800 in 1939.

As to what will happen to these new industries after the war, the report points out that "the readjustment problem for a large number of workers may be severe." Both the region and the nation have a large stake in the industrial plants that have been established. Conversion and utilization of these facilities after the war would do much to alleviate the unemployment, migration, and financial loss that would result from large-scale abandonment. Survival of plants in the region, it is pointed out, will depend on action taken with regard to international policy, national program and practical planning for conversion of plants, manpower, and resources to peacetime uses.

The government and private industry

have cooperated to build or convert these war plants for war production. The report stresses that "an even greater cooperative effort will be needed to effect an orderly transition to a new industrial pattern after peace comes."

Most likely to retain their present importance in the post-war picture, according to the report, are the electroprocess industries which have been located here due to availability of large blocks of low-cost power. Pacific Northwest aluminum plants at the end of the war will have nearly one-third of the nation's ingot capacity. Their continuation will depend on conversion to meet the demands of peacetime markets, development of secondary manufacturing facilities and ability to compete with other centers, since both the nation and the world will have a staggering aluminum capacity. Industries of the primary, metal-producing type, while using large amounts of power, supply relatively little employment as compared to the secondary, fabricating and manufacturing industries.

The report considers it unlikely that the levels of production in the aircraft industry, which will employ more than 50,000 in the Northwest, can be maintained at more than a fraction of the wartime peak.

Strenuous efforts should be made by the Northwest to retain as much shipbuilding capacity as may be feasible, the report recommends, though it warns that thousands of workers in this industry probably will be displaced after peace comes. After the first World War, employment in shipbuilding dropped from a peak of 40,000 to 3,000 in 1923.

"From the long-range point of view,"

the report states, "a bright economic future may be predicted for the Pacific Northwest. But the region must be prepared for a critical period of readjustment during the years immediately after the present war. . . . Many specific problems, particularly in conversion of war plants, present a challenge to the ingenuity and resourcefulness of research workers, engineers, economists and government agencies, and private business as well."

The report forecasts a Pacific Northwest population of at least five million by 1970 and points out that the region contains half the remaining sawtimber of the United States, several million acres of agricultural land that can be readily put into production through irrigation, clearing or drainage, and has 40 per cent of the nation's potential hydroelectric power, which will probably prove to be its greatest remaining resource. Manufacturing, despite the spectacular wartime gains, remains the chief gap in the region's economy. Power, if wisely developed and allocated, and if research and enterprise are fully utilized, should bring manufacturing to the region.

The report was prepared by the Washington staff of the National Resources Planning Board in cooperation with the Pacific Northwest field office.

Aircraft Rulings

• New rulings by the West Coast Aircraft Committee include the following: an employer may not change job classifications without committee approval. An employee must be informed of what change if any has been made in his job classification and pay. Lead men and supervisory employees may not be included when an employer selects 10 per cent of a group for rating as specialists under higher pay. Men who were laid off for a time and then rehired are to receive back bonuses provided for by the board the same as men who were away on leave of absence and returned.

• **MORE PORTLANDERS AT THE N.A.M. MEETING.** Life-like, though banked in flowers is Lewis J. Rains, v.p. Candy Products Co. At his right are E. Don Ross, pres. The Irwin-Hodson Co., S. A. Humphrey, pres. Candy Products Co. (with cigar), J. D. Davidson, pres. Davidson Baking Co. In upper right-hand corner are J. E. Yates, Pacific Light & Power, and P. E. Hodel, mgr. Huntington Rubber Mills.



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SAN FRANCISCO



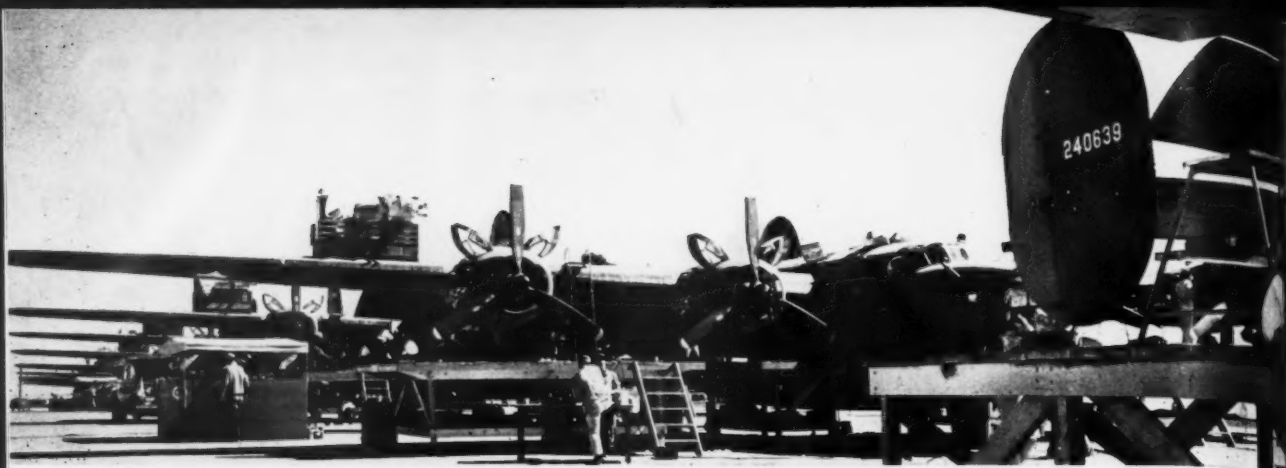
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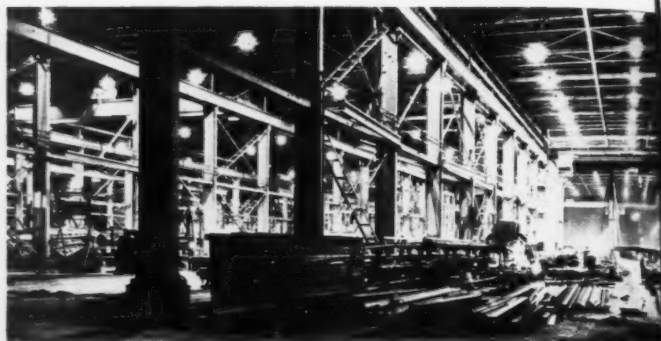
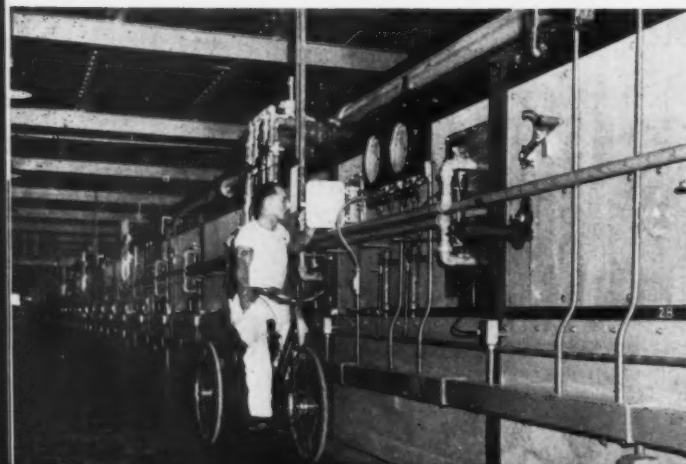
WESTERN INDUSTRY In Pictures

• Tucson, Arizona Division, Consolidated-Vultee. Probably first complete modification production line set up entirely out of doors. To keep interior of metal bombers reasonably cool under blistering sun, portable evaporative coolers are installed for each plane on line, and drinking fountains carry cooled water to work stations. Coolers so built can be detached as plane moved forward on line and connected to next plane moving to station.

• Paper replaces steel as material for trailer wheel wells at Western Trailer Company plant, Los Angeles. Wadded-up paper, impregnated with glue-like solution, is smoothed into place over molds in continuous layers. Material is self-hardening and compressing. When dried, it is sanded, sawed, drilled and installed with nails, screws or bolts.



Ovens in new plant of Loose-Wiles Biscuit Company, Oakland, Calif., believed to be world's largest and longest, are so long operators use specially-built tricycles to ride back and forth in recess of watching signal lights and controls. Each oven has several hundred burners; about 7 miles pipe and 6 miles electric wiring.



• Plate shop at Marinship yard, Sausalito, California, showing daytime effect created by skillful lighting installation.

• Totally blind Joe Wood operates a carton stitcher at the Imperial Candy Company, Seattle, Washington, placing staples accurately and surely to produce cartons of proper strength.



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* U. S. Patents Nos. 2,131,374, 2,209,752, 2,209,753, 2,209,754.

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pipe coverings



Northwest Aluminum Pilot Plant Projected

Washington Correspondent Says Westerners In Congress Will Have to Hammer It Home

YOU may be reasonably confident that the Pacific Northwest will have a pilot plant to test the practicability of making aluminum out of kaolin clays; but it will not happen without a vigorous drive by the Western delegation in the Congress to hammer home the idea among the bigwigs of WPB.



It is never easy to get anything done by WPB, and it is especially difficult to get anything done that involves equipment made of metals. At this time to get anything done comes closely within the range of miracles, because, by and large, a considerable part of WPB is in a state of *suspended animation*. The italicized phrase was used the other day by a candid official in WPB itself.

You probably know that most of WPB is marking time to wait for the result of the big fight over the Civilian Supply Administration bill, which is a test of Nelson's standing. As a whole, professional observers have been deeply impressed with the patriotic motive in the Congress about this bill. It is the bulwark the thinkers in the Congress are setting up against such collectivism as has wrecked Europe.

The pilot plant project for the Pacific Northwest stems from James Gallagher,

whose name is intimately identified with the Pacific Coast Fruit and Produce Corporation. Mr. Gallagher, who heads a Northwestern syndicate and who is said to represent about all the money there is available in the Pacific Northwest, has more than a layman's knowledge of chemistry. Some of his quiet parties in the interest of this pilot plant have become milestones.

In New York he submitted the idea to the highly respected Chemical Engineering Corporation which has its own pilot plants and testing laboratories in Connecticut.

We are told the corporation made a favorable report about the possibilities of turning kaolin clays into aluminum via alumina, and that they went so far as to offer to undertake the building of the pilot plant, which would have a capacity of from 100 to 200 tons and probably will be located at or near Troutdale, Oregon.

Troutdale seems to be regarded as the strategic spot because it is located close to clay deposits with 40 feet overburden, of large volume, easily accessible, and near to the surface. Moreover, it is not far from Castle Rock, Washington, and from Hobart Butte, and other places in Washington where there is plenty of clay. There are also large beds of the clay in

Idaho, and in the Olympic ranges. The proper kaolin clay seems to be abundant in the Pacific Northwest.

It is also strategically placed properly in relation to the supply of power, and is in proximity to limestone which is needed in processing the clay. Finally, the Aluminum Company of America has one of its important processing plants at Troutdale, where it processes bauxite shipped all the way from Arkansas. At Longview, Washington, there is the Reynolds aluminum plant, and there is plenty of power, and almost every other supply and facility; but apparently it is believed the location of clay beds, both in relation to the potential plant site and the proximity of the clay to the surface, gives Troutdale the edge.

In this country we assumed we had almost inexhaustible bauxite mines in Arkansas, running from 55 to 75 per cent pay dirt. It also was generally assumed there are great deposits of bauxite in Tennessee, Mississippi, Georgia and Alabama. Before the shipping situation became so desperately tight, we brought very high-grade bauxite from the veritably inexhaustible stores in British and Dutch Guiana. But ship sinkings have absolutely stopped the bauxite from Central America.

Closer investigation has revealed the bauxite in Tennessee, Mississippi, and Georgia is so scant it has no significance, and reserves in Alabama are very limited. The Arkansas mines are expected to scrape bottom in two or three years. Thus with the disappearance of bauxite in this country the need for the processing of the clays has become urgent.

While bauxite is high in alumina silica content, the clays are low in the mineral at their best. All kaolin clays and many other earths have the oxide of alumina, Al_2O_3 . The deposits in Washington, Oregon, Idaho, Utah, but particularly in Washington and Oregon, are regarded as the richest oxide of alumina clays in the world.

These vast beds should supply raw materials to make aluminum for an indefinite period. The industry of mining and processing will probably begin to reach its stride about the time shipbuilding in the Pacific Northwest tapers off.

Gallagher and his associates do business under the style of Columbia Light Metals Corporation. It is anticipated that the pilot plant will cost roughly about \$2,000,000. In a vague sort of way the impression is fostered here that Gallagher and his friends may finance it. It is certain, however, that the funds will be supplied by the Government, through Defense Plant Corporation, one of Jesse Jones' little pets.

The present obstacle is in the Aluminum and Magnesium Division of WPB. This division is one of the flying aces that come directly under the general supervision of Executive Vice Chairman Charles E. Wil-

• **KEEPING AFTER THE SCRAP.** These workmen cut up aged tanks which served the old Metropole Hotel in Denver. Similar outmoded tanks in mills and factories can be transformed into fighting tanks for our invasion armies.



son, who is next in command under Nelson.

At the head of the division is A. H. Bunker; but the man who directly is responsible for decisions in this project is Philip D. Wilson. He describes himself as Vice President of Parners Mines Corporation, with offices in one of the swankiest buildings in New York. He has a long biography in Who's Who in America which shows he has been geologist and mining engineer for Phelps-Dodge at Douglas, Ariz.; and for Shattuck-Arizona at Bisbee, Ariz. He also was with the Calumet and Arizona, and with Transvaal Copper Mining Co. in Sonora, Mexico.

There is an impression that he has given some sort of undefined promise that WPB will approve the project. But Brother Wilson is moving very, very slowly. He himself says the transaction is far from its denouement. After it leaves him it must be approved by the Army, by the Facilities Review Board of WPB; by the Defense Plant Corporation; and probably a half dozen other agencies. However, if Wilson lets go and gives the project clearance, it is generally assumed the rest of the business is mainly routine that may be done swiftly.

It is for this reason that the Western delegate from the Congress will talk turkey to Brother Wilson. This joint cooperative action has been very successful in making the irrigation program really move. The leadership for this movement will come from Rep. Fred Norman, Republican member from Washington. Norman is active, has a practical mind, and feels that whatever is good for the Pacific Northwest collectively, is good for his own district.

He would like to see the pilot plant placed near Longview, Washington, or at Grays Harbor; but he realizes that if other considerations make it difficult, it will be profitable for his district to have the pilot plant developed in a neighboring locality, even if it is in Oregon. Mr. Norman will lead the delegation to the Wilson office, and will work to have Wilson speed up the program.

In connection with all this it will be interesting to learn that three extrusion plants are now in process of allocation to localities on the West Coast. Two have practically been assigned to Southern California, and we are told here there is sufficient reason to feel the third will be placed in the Pacific Northwest. This may mean that it will be located at or near Troutdale; or, possibly, Longview.

Incidentally, the Bureau of Mines is testing production of alumina from clays at its laboratory in College Park, Md.; and so is the TVA in its laboratories in Tennessee.

WOMEN WORKERS WELCOME!



No adjustment necessary in a West-serviced plant

Today, the increased demands of war production have further proven the worth of West products, even when tested against the new problems created by the employment of women workers in heavy war industry.

LAN-O-KLEEN* for healthier hands

Lan-O-Kleen is a double-action corn-meal soap, impregnated with emollient lanolin. First, it removes virtually all types of dirt and grime—without getting tough about it. Then it "Work-Conditions" the hands by putting on an oil similar to natural skin oils. Lan-O-Kleen helps nature to maintain a normal, healthy skin condition.

WEST PROTECTIVE CREAMS

As a result of many articles on the subject, women workers are more than ever aware of the wisdom of using protective creams as an added precaution against dermatitis. But it is in the interest of management to provide workers with the PROPER protective cream—one that the West laboratories have prepared after careful research to best combat the hazards of dermatitis aggravated by those specific irritants peculiar to the various materials handled.

Write for literature on these products or request that a West representative call to see you



*Trade Mark Reg. U. S. Pat. Off.

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WESTERNERS AT WORK...

Here and There In Personnel

Thomas J. Adams, Columbia Steel Company, Pittsburg, becomes chief metallurgist at their Torrance plant. . . . Quenton L. Brewer, formerly field engineer for the California Bureau of War Minerals Production, Sacramento, named acting chief, succeeding Bruce McDonell, resigned. . . . Fred J. Wellhouse, on loan from Westinghouse, takes charge of OCD Pacific Coast dimout and blackout activities, succeeding Frank A. Hansen, retired, as active head of Light Control Division because of ill health.

Wellwood E. Beall, formerly chief engineer, elected vice president in charge of Boeing Aircraft Company's engineering department; Edward C. Wells, assistant chief engineer, takes Beall's old job; Lysle A. Wood, formerly executive engineer, steps into Wells' shoes. . . . Charles H. Day, assistant general manager Kaiser shipyards, Richmond, reports for duty with the Army. . . . B. H. Harms promoted from enrollment supervisor to vice president of Aero Industries Technical Institute.

Southwest Steel Rolling Mills, 9901 So. Alameda Street, Los Angeles, announce the affiliation of Dr. Leo Schapiro to its staff as chief metallurgist and general superintendent.

Louis Wulfekuhler, formerly assistant secretary under Cyril Chappellet, elected secretary of Vega Aircraft Corporation. He holds similar position with Lockheed Aircraft Corporation. . . . Cyril Chappellet and Carl B. Squier, both vice presidents of Lockheed, have been elected Vega vice presidents.



LOUIS WULFEKUHLER
Secretary, Vega Aircraft

Promotions and appointments announced by Ryan Aeronautical Company include: Ray Clever, acting service manager, replacing Mel Thompson who has been appointed assistant to Eddie Molloy, vice president in charge of manufacturing; Travis Hatfield appointed director of athletics and recreation; J. E. Cooper, formerly with Consolidated Vultee, joins Ryan as assistant to production superintendent E. A. Moore; J. T. Zihlman of Goodyear made assistant to factory manager G. E. Barton, and W. Dow Woodward, previously with Curtiss-Wright, now contract coordinator under Walter Locke, Ryan's contract administrator.

Rena Brewster, formerly Deputy City Attorney of Los Angeles, now chief of the Division of Industrial Welfare, California State Department of Industrial Relations, succeeding Margaret L. Clark. . . . Phelps Dodge Corp. changes in managementships: L. M. Barker, manager of New Cornelia branch, Ajo, Arizona, succeeding J. H. Davis, retired. J. F. Berry named manager Montezuma Copper Company, Phelps Dodge subsidiary at Nacozari, Sonora, Mexico, to fill vacancy caused by death of A. B. Williams. . . . Harry Agerter appointed general manager of Aircraft Components, Inc., Los Angeles. . . . Guernsey Frazer, public relations director, Basic Magnesium, Inc., named administrative assistant to general manager.

Richard W. Millar, former president and director of Vultee Aircraft, Inc., is president of the newly formed Avion, Inc. Other officers and directors include R. W. Palmer and Don I. Carroll, vice presidents; Roland J. Pagen, treasurer and controller; Morgan W. Lowery, secretary; and J. Coots, assistant secretary.



RICHARD W. MILLAR
President, Avion, Inc.

R. A. Lawson, formerly works manager, Vultee Aircraft Corp., named factory manager of Plant One, San Diego. . . . W. J. Tuttle moves from director industrial relations at Vultee Field to head of industrial relations department, San Diego. . . . Val C. Zimmer, previously director of plant protection, Vultee Field, named assistant to Mark Hannan, director of plant protection in San Diego.

Raymond Brooks, president of the Nevada Keystone Mining Company, Winnemucca, Nev., and vice president of the Old Central Mining Company, appointed chief of the Base Metals Section of the Metals and Minerals Division of the Board of Economic Warfare, Washington, D. C.

Gene L. Green, formerly principal mediation officer for WLB, appointed Director of the Disputes Div. by Tenth Regional WLB, succeeding Lawrence Lydick, now an ensign in the navy. . . . Frank E. Marsh appointed OPA Regional Administrator for six western states, succeeding Harry Camp, resigned. . . . J. E. Mayl, vice president of Goodyear Tire & Rubber Co., appointed member Southern California area WMC, representing management.

Francis J. Kennerley, who in 1916 was in charge of accounting at the Hercules Powder Company plant at San Diego, California, has recently been named treasurer of the chemical company at Wilmington, Delaware.

T. H. Banfield, Portland, Oregon, appointed member of Oregon State Highway Commission by Governor Earl Snell. Banfield is president of Iron Fireman Manufacturing Company, president of the general contracting firm, Parker & Banfield, and director for Oregon of National Association of Manufacturers.



T. H. BANFIELD
Oregon Highway Commissioner

New officers of the Pacific Coast Transportation Advisory Board S. E. Gates, general chairman; Harold D. Weber, vice general chairman; Kenneth Smith, general secretary, and E. L. Roewe, secretary. . . . Westerners among the new officers of the National Aircraft War Production Council are: LaMotte T. Cohu, vice president; Robert E. Gross, director; T. Claude Ryan, director.

L. E. Fleming, San Francisco, appointed director of transportation for district 5, Petroleum Administration for War. . . . Jas. Douglas, Los Angeles, named director Zinc division of WPB minerals bureau, succeeding George C. Heikes, who joined staff of Olin Corp., Tacoma. . . . Alfred C. Lockwood, Phoenix, former chief justice Arizona Supreme Court, appointed to Tenth regional WLB in San Francisco. . . . Senate confirms WMC nominations James P. Blaisdell as area director, and Stanley Bailey, San Francisco, assistant area director, George S. Drysdale, consultant to San Francisco office, Orland V. Steel, administrative officer in San Francisco office. . . . M. L. Wilderman named purchasing agent at the Aluminum Corporation plant in Spokane, succeeding Rudolph Anderson who becomes plant superintendent. . . . Idaho state planning board names on board for post-war development: Otto P. Hoebel, chairman; Leonard Cardiff, vice chairman, and Joe D. Wood, executive secretary.

J. R. Millar, well known in the automobile accessory field, elected chairman of the board of California Cotton Mills Company, which includes M. P. Madison, H. Brown, R. Y. Millar, B. W. Ford, W. D. Hamilton, R. F. Livingston, D. A. Olsen and J. H. Grut; Olsen appointed president and general manager, Hamilton vice president, secretary and treasurer. Other officers: R. C. Forrest, W. J. Talbot, E. T. Combs, N. E. Prather and H. W. Wells.

Allen A. Jergins, California oil industry executive, named director of the Facility Security Div. of Petroleum Administration for War. . . . Dean Ballard, formerly with Seattle Chamber of Commerce, becomes manager of the Distributors' Association of Seattle, Inc. . . . Neal Van Sooy, formerly manager of Redwood City Tribune, appointed industrial relations director National Motor Bearing Co.

Associations Elect

Charles L. Tanner, manager of Hard Chrome Engineering Company, Los Angeles, elected chairman of membership committee of Aircraft Parts Manufacturers Association. Others on the committee: H. F. Bakewell, E. R. Doak, E. L. Eason, Jr., and W. T. Griffiths, all of Los Angeles,

Producers' Council, Northern California Chapter: C. W. Graft, Kraftile Co., president; Horace Pickett, National Lead Co., vice-president; Ed Stein, Pittsburgh Plate

Glass Co., secretary; and Chet Cook, Sisalkraft Co., treasurer.

Heating, Piping and Air Conditioning Contractors Association of Southern California: J. Herman, Jr., J. Herman Co., elected president.

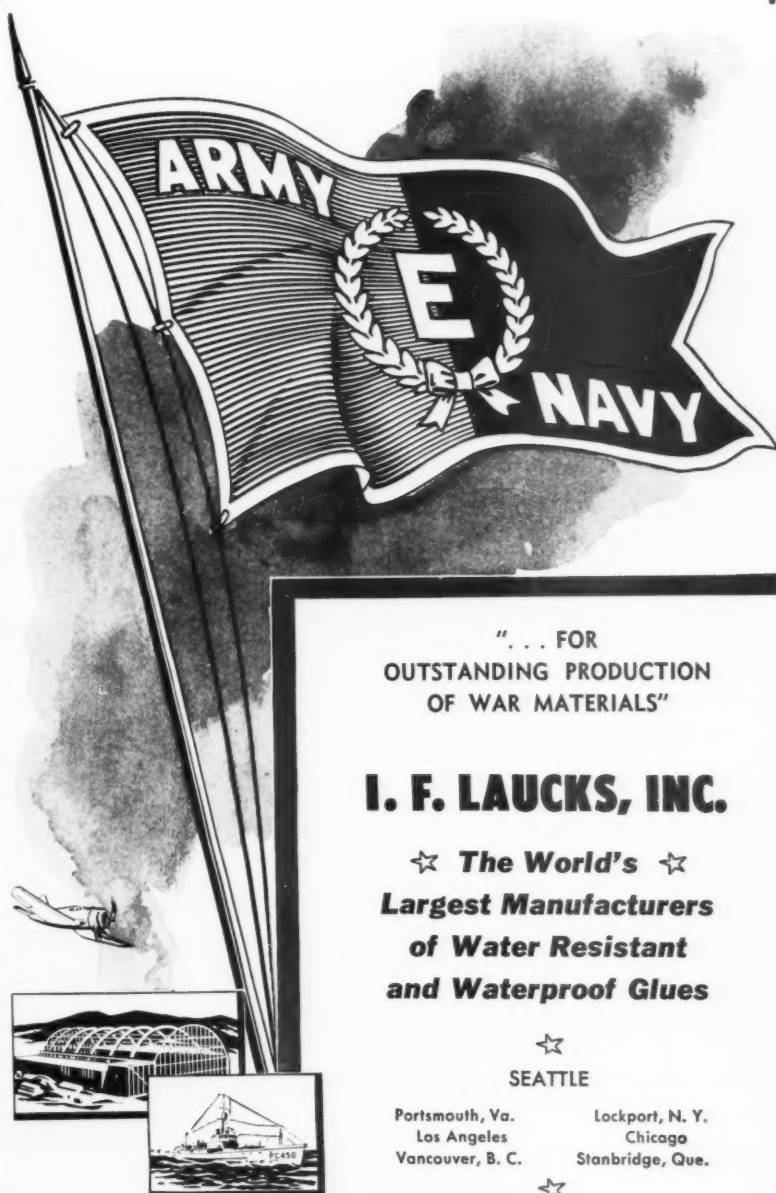
Officers elected by the Purchasing Agents' Association of Washington, Inc., include Charles V. Tinker, president; D. P. Brewer, first vice president; H. F. Price, second vice president.

Utah-Nevada-Idaho Safety Council: George W. Knudsen, safety engineer of the Utah Copper Co., Bingham Canyon, Utah, elected president.

New Mexico Miners and Prospectors Association: F. O. Davis, president; Carl S. Elayer, first vice president; John B. Carman, second vice president; R. N. Twiss, treasurer; and A. P. Mracek, secretary.

California Manufacturers of Carbonated Beverages elected George Culley president; Paul B. Bacon, vice president; and George Martinson, secretary.

California Stripper Well Association elected Robert C. Davis president; Chester F. Yunker, Edwin P. Crail, and Chester F. Dolley, vice presidents; Thomas H. Work re-elected secretary-treasurer; and Richard Fentor re-elected executive vice president.



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OUTSTANDING PRODUCTION
OF WAR MATERIALS"

I. F. LAUCKS, INC.

☆ The World's ☆
**Largest Manufacturers
of Water Resistant
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LAUCKS GLUES AND WOOD REPLACE STEEL FOR WAR!

W. P. B. Redistribution Helps Western Firms

WESTERN surplus inventories are finding their way into war production channels or essential civilian manufacture in increasing volume as the result of expanding operations of the regional War Production Board's Redistribution Division, operating in six Western states, and headed by regional manager W. D. Cloos in San Francisco.

The government acts as agent in arranging contacts between buyers and sellers without cost to the principals.

WPB has already assembled an unbelievably large record of inventory supplies in its regional distribution files, and there is a tremendous turnover in this inventory each week, as the dollar volume handled is more than seven figures monthly.

A main inventory listing is kept at Washington, with supplementary records at each regional and district office. If each local request cannot be filled within that area, an extensive intercommunications setup provides nation-wide check on the availability of the urgently needed item.

Extending this direct service, the Redistribution Division also lists products of raw

materials—lumber, chemicals, metal piping, sheets and fabricated materials, etc.—that turn up in the original quest for a specific piece of equipment.

At the same time, inspection and listing of excess inventories often turn up a favorable cash transaction. An example of this is the present cooperation of OPA which provides for reasonable price ceilings on exchanges of various materials and equipment.

For instance, the owner of an old lathe may receive 55 per cent of the value of a new lathe for its sale, and as much as 85 per cent of a new lathe's price if the older unit is reconditioned.

"The major Western gold mining and copper companies are giving extensive cooperation by furnishing larger inventory lists and available equipments and supplies," according to H. C. Falkell, Redistribution Manager for Northern California and Nevada.

A large copper company, for instance, is now operating on a 90-day basis of available inventory supplies. Everything above its three-months' needs and inventory are

put at the disposal of the government for channeling of the war products or essential manufacturing needs.

Unusual examples of many items handled through the WPB's Redistribution Office cover practically every phase of regional manufacture. For instance, motors of various horse power are now needed in Arizona and it is expected that these will be turned in by contacts with other mining operations.

One of WPB's main redistribution problems is to overcome the opposition of owners of various held equipment and materials they do not immediately need or may never be able to adapt to their type of production. In this regard the Redistribution Division also has authority to make offers for the purchase of materials on behalf of various agencies. It can also assist owners or holders of frozen materials to dispose of them.

Equipment and Materials Available

WPB's Redistribution Division lists thousands of items taken from frozen and surplus inventories of critical materials, plus hundreds of idle equipment and machine units, which are available for purchase upon inquiry at WPB regional and district offices.

Examples of the types of the materials and equipment which may be used in Western manufacturing or war plant production are listed here for industrial buyers in this area. The following are only a

Some of this story may never be told—but . . .



IT'S a story of quick conversion from peacetime to war output—the old Cleveland Worm Gear Speed Reducers had to keep on carrying the load. The user reports:

"Eight large Cleveland Units have been driving our heavy equipment for an average of 16 years apiece;

"They are operating 300 days a year; they require practically no maintenance;

"Seven of them have needed no new parts in 5 years—the other has had just 1 replacement since 1938. They always run."

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Downs Safety Plate Grips

- POSITIVE NON-SLIP GRIP
- WILL NOT DAMAGE FINISHED SURFACES
- EASILY OPERATED BY ONE MAN
- HANDLES HORIZONTAL MATERIAL
- TESTED FOR 15 YEARS
- ½ TO 10 TON MODELS

Write today for specifications

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Mechanical Engineers — Specialists in Hoisting Equipment
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On Hand

Canceled war contract

400 hand trucks consisting of steel frame and wheels, 30-in. width by 48-in. length, approx. 3-in. high. Each unit has 5 truck wheels—four on the frame and one on steering tongue. 4 12-in. steel wheels under frame are approx. 4-in. wide steel tires, 1 steel wheel on steering tongue is 8 in. and approx. 4 in. wide steel tire. Frame made from angle iron. All welded. No platform on trucks. They were used for portable welding machines and holder will sell for \$15.00 each f.o.b. Northwest.

Use for beauty shop equipment prohibited by war priority regulations. In hands of Los Angeles equipment manufacturer:

10,000 ft. 1/2-in. O.D. welded steel tubing, H.R., heavy wall. 10,000 ft. 1-in. O.D. tight butt seam steel tubing, C.R. (This would not be suitable for bending.) 40,000 ft. 1-in. O.D. butt-weld Beadstead steel tubing, black tumbled finish, .078-in. wall thickness, approximately 20 ft. lengths, National. 2,000 ft. 3/4-in. I.D. seamless steel pipe. 2,000 ft. 1/2-in. I.D. seamless steel pipe.

Distressed cargo bound for Orient, in hands of eastern bank, material warehoused in Los Angeles:

112,000 lbs. 3/4 in. to 1 in. round mild carbon steel bar, 6 ft. and longer, 62 bundles, droppings and/or slightly defective bars carbon .25 max., packed loose in lifts of about 2000 lbs.

In hands of Los Angeles concern no longer authorized to use it:

6,900 sheets (16,640 lbs.) tinplate, .0113 gauge (100 lb.), 26 in. x 29 in., I.C.L. brand name.

Canceled war contract:

56,000 lbs. zinc ingots, casting alloy, Government specification 57-92-2.

Contract completed, no longer needed by Arizona contractor:

Oil burning locomotive, passenger type, 10 wheel, class D-8, completely overhauled. Offered at \$12,000.

Critical Equipment Wanted

The War Production Board has listed the following critical items of material and equipment as being vitally essential to the war program at this time. Any holders of the items listed should immediately make them available for the records of their nearest WPB Redistribution Division Office. Here is an opportunity to dispose of equipment for cash and also serve the nation's war production program.

Fabricated metal basic materials:

Boilers over 100 lbs. operating pressure; all forms of tanks, especially nickel and glass lined, also pressure tanks; valves, steel high pressure, 300 lb. and up, 1 1/2 in. and over.

General purpose industrial machinery and equipment:

Deep well and sump pumps; cellar injectors, cellar drainers, small water system pumping units complete with tanks; compressors, 1 1/2 to 10 horsepower; overhead electric cranes of any type; fans, blowers and exhausters, in larger size; industrial furnaces; extrusion and plastic molding presses and injection presses; heat interchangers.

Electric machinery and apparatus:

Motors of all characteristics; special industry machinery (machinery for selected industries requiring specialized machines); canning machinery of all types; rubber working machinery of all kinds, particularly tubing machines and rubber working machines over 40 in. wide; power hammers having capacity of 4000 to 6000

pounds; indicating, recording and controlling instruments and accessories (except watches and clocks and optical instruments).

Miscellaneous equipment:

Industrial type powered trucks.

Wanted, for use in strategic metal mining plant in Northwest:

Four or less used diesel-electric generators, to make total of 1600 K.W.

In hands of local jobber:

Due to recent curtailment of small homes construction, over 500,000 feet of No. 14 rubber covered wire.

Owned by British company with San Francisco representative:


1,000 pair of rubber boots, suitable for defense industry. Stock in N.Y. warehouse.

Manganese Mill

Erection of a custom mill for treating manganese ores, with a capacity of 400 tons daily, to be located at Butte, Montana, utilizing old milling equipment available in that area, has been approved by the Facility Review Committee of the WPB. Domestic Manganese Co. has applied for a \$250,000 RFC loan to construct the mill, utilizing old milling equipment in the Butte area. Known reserves of carbonate manganese ore in the area are 175,000 tons.

FIELD NOTES

ONE FULL LOAD is cheaper than two halves



You can lengthen conveyor belt life in many cases by slowing belt speed, and still get the output to which your production is geared.

A slow-running belt, fully loaded, will deliver as much material as one traveling twice as fast only half loaded. Fabric strain and abrasive action will be reduced -- the belt will last longer.

Treat your conveyor belt as you would your automobile tires. Pioneer belts are built to carry full loads, but a reduction in speed may add many valuable operating months to the useful life.

RUBBER FOR VICTORY

We're one of the few manufacturers with the equipment and research required for vulcanizing rubber to propeller shafts for our new two-ocean navy. "Victory" orders must come first; our present customers as close a second as we are permitted. PIONEER RUBBER MILLS, 353 Sacramento St., San Francisco

PIONEER

Job Tailored

CONVEYOR BELTS

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AND THE INDUSTRIAL WEST

Blanket Wages For Alaska Jobs

First blanket uniform-wage schedule in the United States has been laid down by regional War Labor Board at Seattle, for the thousands of men employed in Alaska by contractors on jobs authorized by the Army Engineers, Alaska Defense Command, the Civil Aeronautics Authority and other war agencies.

It covers one in every six wage earners in Alaska and was requested by the hiring agencies as a means of making possible general WMC recruitment rather than by individual companies each holding out different inducements to get men. The scale covers 32 classifications and provides increases of 5c to 10c an hour.

CIO Kaiser Case Losing Ground

Bit by bit the NLRB case against the Kaiser shipyards in the Portland area seems to be disappearing. Some weeks back the trial examiner ruled that there was no proof of conspiracy between the yards and the AFL, as had been charged by the CIO, leaving the main question remaining, that of validity of contracts entered into when

the number of employees was so small compared to the present payroll.

Now the NLRB has offered to drop its proceedings if the AFL unions will cancel their closed shop contracts with the company, but the AFL rejected the offer, which was made by NLRB member John M. Houston "in behalf of the entire board membership" before a congressional committee.

Meanwhile the proceedings before Examiner Denham at Portland have been dragging on endlessly.

Blame the Brides

• Wives who follow their servicemen husbands from camp to camp are largely responsible for the huge turnover, ranging as high as 23 per cent a month, in San Diego war plants, the Downey military affairs sub-committee of the U. S. Senate was told in hearings there last month. Roy Ferguson, director at San Diego of the U. S. Employment Service, said Consolidated-Vultec has been able to increase its payroll only a net of 1 per cent since last July. Dale O. Reed, president of the AFL Machinists at Lockheed-Vega, testified at Los Angeles that the plants had lost man-

power since the WLB wage stabilization order of March 3, and that in one case 10 less great airplanes came off the assembly line in April and a contract for 132 more such planes by the end of the year had to be turned down.

Regional WLB Clears Decks

Although the Tenth Regional War Labor Board at San Francisco has pretty well dug its way out from under a huge pile of waiting cases and transferred 285 of them to the new Twelfth Regional Board, comprising Oregon and Washington, the incoming flood of applications has not diminished.

Additional panels have been set up in order to keep up to date with cases, and in one instance, that of the Salz tannery in Santa Cruz, approval of wage rates was given in a few minutes because of a crisis in getting tankers. To give Southern California speedier service, A. Bruce Hunt, recently principal trial examiner for the NLRB, has been appointed assistant disputes director, with his office at 1031 S. Broadway, Los Angeles.

Action to enforce compliance with wage stabilization provisions of the Anti-Inflation Act has been taken, according to Chairman Thomas Neblett. Three members of the board, representing industry, labor and the public, have been designated as a division to hear and act on evidence of any violation alleged by the regional attorney.

A number of the wage dispute cases being heard by the regional board have been transferred to it from the National Labor Relations Board.

• **NORTHWEST REGIONAL WAR LABOR BOARD.** Back row, left to right: T. H. Todd, Seattle; Walter Cribb, court reporter; John N. McCourt, Portland; Dr. Clark Kerr, Seattle, vice-chairman; Dr. G. Bernard Noble, Portland, chairman; Father Francis Corkery, Seattle; all public representatives except Cribb. Carl Schedler, director of field operations, WLB, Washington, D. C.; Thomas F. Neblett, regional WLB chairman, San Francisco. In foreground: Hal R. Dixon, Spokane; Henry L. Corbett, Portland; Portland, Denzil Hailey, Seattle, Keith J. Middleton, Seattle, industry representatives. Dell E. Nickerson, Portland; Leo Flynn, Seattle; Roy G. Atkinson, Seattle; E. E. Benedict, Portland, representing labor.



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Nonferrous Metals

Recent cases decided by this commission at Denver include the following: increase of 26c per shift awarded to employees of Miami Copper Company, Inspiration Consolidated Copper Company and International Smelting and Refining Company, with seven successive days vacation with 48 hours pay, maintenance of membership and check-off provisions but no coercion to join union; ditto for Phelps-Dodge Corporation, but demand for union shop denied; five Philipsburg, Montana, mines, general wage increase \$1 a day retroactive to July 1, 1942; U. S. Smelting, Refining and Mining Company, Bayard, N. M., request for union shop denied, maintenance of membership and check-off granted. . . .

Increase of 11 1/4c an hour for lead smelting operation in American Smelting and Refining Company plant at Leadville, Colo., retroactive to Aug. 1, 1942, 5c in their cadmium refining Globe plant at Denver, retroactive to July 1, 1942. . . . Kennecott Copper Corporation, China Division, Hurler, N. M., temporary agreement continued pending negotiation, check-off denied, maintenance of membership must be continued by the company, but in view of reported high delinquency in dues, union members \$5 or less in arrears given one month to return to good standing, others two months . . . ditto for Peru Mining Company, Hanover, N. M.

Here and There In Labor Picture

California Railroad Commission finds 22.3 per cent of authenticated and investigated train delays brought to its attention due to full-crew law. . . . 50-odd CIO men,

headed by Edward Hertz, international representative United Auto Workers, resign from War Manpower committees in Southern California in protest against WMC Chief Paul McNutt's action reducing union representation on National Labor-Management Policy Committee. . . . WLB approves 90c an hour wage rate for lumberjacks and sawmill workers in Pacific Northwest Douglas fir and pine industries. . . . Shipyard labor front in San Francisco Bay area announces troublemakers who precipitated unauthorized shipyard walkouts will be expelled. . . . Pacific Northwest foundry workers and molders ask WLB for \$2 a day wage increase and union apprentice system instead of training system devised by employers. . . . NLRB orders Eugene Fruit Growers Association, Eugene, Oregon, to cease discouraging employees from joining cannery workers union and permit employees to organize for collective bargaining. . . . Heavy losses in California asparagus crop because Filipino laborers won't accept government wage scales averaging \$13.25 a day for experienced workers. . . . AFL Teamsters Union locals in Southern California agree in U. S. Labor Conciliation Service decision not to intimidate or coerce certain workers into joining the union. . . .

(Concluded on Page 40)

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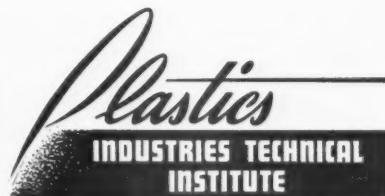
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LABOR *(Concluded from Page 39)*

More than half of lettuce workers in Phoenix walk out in protest against WLB refusal to grant them further increases in pay. . . . San Francisco Local No. 66 of Machinists Union votes to end affiliations with AFL. . . . Coal miners in Washington stay on job regardless of eastern coal situation. . . . Washington Department of Labor and Industries takes "definite steps to halt the exploitation of child labor in war industries" and will require permits from the department for children under 18. . . . U. S. Dept. of Labor Children's Bureau warns Alaska cannery operators to get work permits from proper authorities when hiring minors 16 or 17 years old to guard against violating the Fair Labor Standards Act by hiring minors under 16. . . . Maintenance of membership and check-off clauses ordered included in contract between Shell Chemical Company and CIO Oil Workers International Union. . . . Two AFL Teamsters Unions and Butchers Union locals in Los Angeles sue group of CIO units asking \$150,000 damages for defamation by publishing leaflet saying a vote for the AFL in an organization drive would be "a vote for Hitler, Mussolini and Hirohito." . . . NLRB orders election at Solar Aircraft Co., San Diego, for choice of bargaining agency. . . . Arizona Labor Victory Committee

tells government that plans of Tovrea Packing Company, largest meat processor in the state, for gradual shutdown constitute strike by management and urges company be placed on full production basis. . . . Northrop Aircraft, Inc. denies CIO charge of indiscriminate layoffs of 500 workers, says less than 150 laid off and this due to changing model. . . . WLB freezes 4500 Bethlehem shipyard workers at San Pedro, denies CIO request for union shop agreement. . . . U. S. Circuit Court of Appeals in San Francisco hears first case (North American Aviation vs. CIO aircraft workers) under National Labor Relations Act as to whether an employer may negotiate grievances with employees personally or whether grievances must be handled by the union. . . . Regional WLB at Seattle studies plans for Boeing employee vacations because company and union unable to agree. . . . U. S. Vanadium Corporation increases wages at its Conger, Colo., mine 10c an hour, to 80c for miners and 73c for muckers. . . . 200 Sacramento hotel workers walk out, contending that hotels refused to sign contract for higher wages. . . . WLB approved increase in base rates of seven American Can Company plants in California and Oregon to 80c an hour for men, 70c for women. . . . Labor unions exempted from provisions of insurance code requiring them to incorporate if they paid benefits to members under new California law.

BUSINESS BOOKS

• *Micromeritics, The Technology of Fine Particles*, by J. M. DallaValle. This book treats the new science, Micromeritics, the behavior and characteristics of the many-sized particles outside the colloid group, ranging from submicroscopic to approximately an inch in diameter. This is essential in studies of metallurgy, explosives, soils techniques, paints, mining, industrial hygiene, packaging of foods and powders and related problems and is designed for practicing engineers and students in the chemical, mechanical, metallurgical, civil engineering, geological and hydrological fields. Information is given on particle measurement, size distributions, packing arrangements and physical properties. Price \$8.50. Pitman Publishing Corporation, 2 West 45th St., New York.

• *Plastics*, by J. H. DuBois. A simplified presentation of the manufacture and use of the important plastics materials and products with tables of their properties plus the basic design information required by engineers and designers. This book which is thoroughly indexed will prove useful to those already in plastic work, those who employ plastics in their manufactured products and for classroom or self-study work. Price \$3.00. Published by American Technical Society, Drexel Ave. at 58th St., Chicago, Illinois.

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THE WEST ON ITS WAY

This is only a partial list of the industrial projects, throughout the eleven western states.

ARIZONA

FLYING SCHOOL CONSTRUCTION—H. L. Royden, 2420 W. Jefferson, Phoenix, Ariz., has been awarded contract by U. S. District Engineer Area Office, Phoenix, for construction of compass swinging base and approaches at a Basic Flying School in Pima County, Ariz., to cost less than \$50,000.

HOUSING—The Utah Const. Co., Ogden, Utah, has been awarded contract by Federal Public Housing Authority, San Francisco, for construction of 200 dormitory units and 150 family dwelling units at Kingman, Ariz., to cost \$655,209 plus fee.

MISCELLANEOUS CONSTRUCTION—Summerbell Roof Structures, 756 E. 29th St., Los Angeles, have been awarded contract by U. S. District Engineer Office, Los Angeles, for construction and installation of wood roof trusses, columns and beams for three hangars and other buildings at a modification center in Pima County, Ariz., costing less than \$500,000.

DWELLING UNITS—Del E. Webb Const. Co., Phoenix, was awarded \$361,444 contract by the Housing Authority of Phoenix, for the construction of dwelling units near Phoenix, Ariz., to serve Air Research Manufacturing Co. employees.

POST OFFICE ADDITIONS—J. S. Sundt, 440 South Park Ave., Tucson, Ariz., has been awarded contract by the U. S. District Engineer Area Office, Phoenix, for construction of additions to post office at an airfield in Pima County, Ariz., to cost less than \$50,000.

AUTOMATIC FIRE ALARM SYSTEM—American District Telegraph Co., 610 S. Spring St., Los Angeles, has been awarded contract by U. S. District Engineer Office, Los Angeles, for construction of an automatic fire alarm system for hospital and warehouse areas at an Army Air Force Flying School in Yuma County, Arizona, to cost less than \$50,000.

AIRFIELD BUILDINGS—Paul E. Griffin, 7219 Sepulveda Blvd., Van Nuys, has been awarded contract by U. S. District Engineer Area Office, Phoenix, for construction of technical buildings at an airfield in Pima County, Ariz., to cost more than \$50,000.

CALIFORNIA

MANGANESE ORE—Rich manganese ore has been opened at two new points in the mineral zone of the Schmidt property south of Tracy, Calif. New roads have been built to the deposits and arrangements completed for more extensive mining. The ore mined is the type in demand for manufacture of electric storage batteries.

SHIPS—Marinship Corporation, Sausalito, Calif., has been awarded contract for 36 tankers by the Maritime Commission, to be completed by the end of 1944.

HOSPITAL BUILDINGS—Barrett & Hilp, 918 Harrison Street, San Francisco, have been awarded \$1,027,300 contract by the Commissioner of Public Buildings, Federal Works Agency, Washington, D.C., for construction of a community hospital and nurses' home at Vallejo, Calif.

BUILDINGS—MacDonald & Kahn, Inc., San Francisco, have been awarded \$281,182 contract by the Housing Authority of the City and County of San Francisco, for general construction work including grading, of 504 dormitory units, and other buildings at Hunters Point, San Francisco, Calif.

SHIPS—Permanente Metals Corp., Richmond, Calif., has been awarded contract for construction of ships by the Maritime Commission in Washington. 25 Liberty and 35 Victory ships will be built at Yard No. 1 and 75 Victory and 6 Liberty ships will be constructed at yard No. 2.

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THE WEST ON ITS WAY

ROAD SURFACING—Piazza & Huntley, San Jose, have been awarded \$270,874 contract by State Division of Highways, Sacramento, for road surfacing in Kings County, Calif.

DWELLING UNITS—Standard Building Co., 1500 Judah St., San Francisco, has been awarded \$884,440 contract by the Federal Public Housing Authority, San Francisco, for construction of 725 family dwelling units on a tentatively selected site northwest of South San Francisco.

HOUSING FOR "WAVES"—Stanton-Reed Co. and J. W. Breedlove Corp., San Diego, have been awarded \$370,000 contract by the U. S. Navy Public Works Office, San Diego, for construction of seven dwellings to house WAVE officers and enlisted personnel at Coronado, Calif.

DEHYDRATOR PLANT—Tastemore Dehydrate Company, Baldwin Park, Calif., in its plant on West Ramona Blvd. is equipped to handle all kinds of fresh vegetables, but expects to handle primarily carrots and parsley.

AIR BASE BUILDINGS—Davies & Keusder, 118½ N. Larchmont Blvd., Los Angeles, have been awarded \$370,000 contract by the U. S. District Engineer Area Office, San Bernardino, for construction of army air base buildings in Kern County, Calif., to cost more than \$100,000.

MARINE AIR STATION FACILITIES—Hodges & Kahn, 6779 Lexington Ave., Los Angeles, have been awarded \$1,886,340 contract by the Bureau of Yards & Docks, Navy Department, Washington, D.C., for various facilities for Marine Air Station, Mojave, Kern County, Calif.

ROAD WORK—A. Teichert & Son, Inc., Sacramento, have been awarded \$208,971.30 contract by the State Division of Highways for road work between one-half mile south of Clear Creek and Redding Subway in Shasta County, Calif.

COMMUNITY CENTER—Myers Bros., 3407 San Fernando Rd., Los Angeles, have been awarded contract by Federal Public Housing Authority, San Diego, for construction of a community center at Linda Vista, San Diego County, to cost \$264,607.

WAR HOUSING—M. J. Brock & Sons, 107 N. Larchmont Blvd., Los Angeles, awarded \$68,745 contract by the Housing Authority of San Bernardino County for construction of a war housing project in Twenty-nine Palms, Calif.

STORM DRAINAGE SYSTEM—Julio Tomei Construction Co., Van Nuys, has been awarded contract by U. S. District Engineer Area Office, San Bernardino, for construction of storm drainage system at an air depot in San Bernardino County, Calif., to cost less than \$100,000.

APARTMENTS, OFFICE BUILDING, ETC.—Lawrence Const. Co., 3511 E. Curtis Park Drive, Sacramento, has been awarded a \$141,734 contract by the Housing Authority of Marysville for construction of apartment buildings, an office building, community hall and kitchen, clinic and playground at Marysville, Calif.

HOSPITAL FACILITIES—K. E. Parker Co., 135 S. Park, San Francisco, has been awarded \$2,122,000 contract by U. S. Navy Bureau of Yards and Docks, Washington, D.C., for additional facilities at the naval hospital in Oakland and naval hospital at the Monterey Navy Air Station, Alameda, Calif.

UTILITY CONSTRUCTION—J. E. Haddock, 538 E. Foothill Blvd., Pasadena, will construct utilities in Fresno County on contract let by U. S. Engineer Office, Sacramento, to cost between \$50,000 and \$100,000.

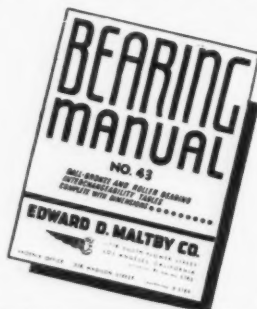
DEHYDRATION PLANT—George Renz, Gilroy, has received contract to construct addition to the C. B. Gentry dehydration plant, to cost around \$100,000. This plant in Gilroy, Calif., has been engaged primarily in dehydration of onions and garlic.

FACTORY BUILDING—The Cooper Screw Manufacturing Company has been given permission to erect a \$33,700 factory building at 44½ Worth Street, Los Angeles.

TUNNEL—Pittsburgh-Des Moines Steel Co., Rialto Bldg., San Francisco, has been awarded contract for construction of a new high-pressure wind tunnel at the Ames Aeronautical Laboratory, National Advisory Committee for Aeronautics, Moffett Field, near Sunnyvale, Calif. The tunnel will cost about \$3,500,000 including equipment, when completed.

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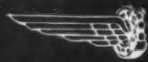
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SCHOOL BUILDINGS, ETC.—Central Building Co., Los Angeles, has been awarded contract by U. S. District Engineer Area Office, Riverside, for construction of school building, warehouse and shop repair and equiptage building in Riverside County, Calif., to cost more than \$50,000.

AIRCRAFT PARTS—The Consolidated Aircraft Corp., San Diego, is locating a branch plant in Anaheim, 113 South Palm, where it will employ largely women.

NAVY CONSTRUCTION WORK—McNeil Const. Co., Los Angeles, has been awarded \$11,972,524 contract by the Bureau of Yards & Docks, Navy Dept., Washington, D.C., for construction of additional facilities at Pleasanton, Calif.

AIRCRAFT COMPANY CONSTRUCTION—H. M. Keller Co., 4604 Hollywood Blvd., Los Angeles, has been awarded a contract for the concrete work in connection with construction of customers' service hangars at Lockheed Aircraft Corp., Burbank. Separate contract is to be let for the steel erection. The total cost is \$150,000.

WORK CLOTHES PLANT—Capital Manufacturing Company, 412 East Ninth St., Los Angeles, has made arrangements to locate its work clothing plant at San Fernando, Calif.

AIR BASE CONSTRUCTION—Robt. E. Millsap, 437 S. Hill St., Los Angeles, has been awarded contract by U. S. District Engineer Area Office, Riverside, for officers' mess hall alterations and additions at an air base in Orange County, California, to cost more than \$100,000.

INSULATION MATERIAL—Johns-Manville Products Corp. is speeding production in its Redwood City, Calif., plant of essential insulation material which goes into ships of the navy and the maritime commission.

SHIPS—California Shipbuilding Corporation, Wilmington, Calif., has been awarded contract for 17 Liberty and 105 Victory ships by the Maritime Commission, to be completed by the end of 1944.

DORMITORY UNITS AND BUILDINGS—G. W. Williams Co., Burlingame, Calif., have been awarded contract for \$275,777 by the Housing Authority of the City and County of San Francisco, for the construction of 496 dormitory units, management and maintenance building and a cafeteria building at Hunters Point, San Francisco, Calif.

SUPPLY DEPOT BUILDINGS—Zoss Const. Co., Los Angeles, has been awarded contract by U. S. District Engineer Area Office, Los Angeles, for construction of buildings and facilities at a Supply Depot in Los Angeles County to cost more than \$1,000,000.

WAAC CONSTRUCTION—John C. Blystone, Garden Grove, Calif., has been awarded a contract by the U. S. District Engineer Area Office, Riverside, for WAAC construction in Orange County, Calif., to cost more than \$100,000.

COLORADO

AIRBASE TAXIWAYS—Driscoll Construction Co., Pueblo, Colo., has been awarded contract by U. S. District Engineer Office, Denver, for widening of taxiways at an air base in Pueblo County, Colo.

VANADIUM PROCESSING—Stearns-Rogers Co., Denver, have been awarded contract by the U. S. Vanadium Corp. for construction of a vanadium processing plant for the Metals Reserve Corp., in Grand Junction, Colo.

IDAHO

DEHYDRATOR PLANT—A potato and onion dehydrating plant is expected to be in operation by August 1st in the outskirts of Jerome. Year around operation is planned.

AIR STATION BUILDINGS—The Austin Co., Sand Point, Idaho, has been awarded \$1,088,000 contract by Public Works Officer, Sand Point Naval Air Station, for construction of buildings at the Sand Point Naval Air Station, Idaho.

ROAD CONSTRUCTION—Max J. Kuney, Spokane, has been awarded contract by the Commissioner of Public Works, Boise, Idaho, for \$63,938 for construction of road surface in Kootenai County, Idaho.

DEHYDRATOR PLANT—The Newcomb plant, Rupert's new dehydration project, can process potatoes, carrots and many other vegetables. They are working three shifts a day on Army and Navy contracts.

TEMPORARY BUILDINGS—Mountain Home Builders, Portland, Ore., have been awarded contract by U. S. District Engineer Office, Portland, Ore., for construction of temporary frame buildings in Elmore County, Idaho, to cost less than \$100,000.

Your Chemical Reporter



The Chemical Industry is keeping pace with Industry. New products are being developed as well as new applications for old products. The Chemical Industry is also subject to raw material, labor, shipping and other problems just like all other Industries. Answers are being found for some of them. This column is designed to keep you posted on developments in the Chemical Industry which may help you.

Insure Your Supply by Ordering in Bulk

Most plants are operating full speed nowadays and requiring more raw materials and supplies than ever before. Containers are scarce, creating a transportation and supply problem. Seriously consider the possibility of taking more of your major supplies in bulk, thereby eliminating some containers. It is true that wood, steel, rubber, and other bulk storage materials are hard to get, but if your need is legitimate and will eliminate much transportation, some labor in handling, eliminate needed containers for other uses, and quicken your overall process, then it is worth while to investigate. Among other things, carefully consider such liquids as acids, caustic soda, or solvents, chemicals requiring expensive containers to ship in small quantities. These chemicals can be easily handled in tank cars or various size tank trucks.

Salvage Ideas

Every so often we hear of someone who has an accumulation of old metal parts which could be used if cleaned up. In their dirty condition, the workmen pass them by in preference for new, shiny pieces. Naturally, the kind of metal would indicate the type of pickling operation which should be employed to clean up the pieces.

One shipyard had a lot of old brass cable connections which were in perfectly usable shape except that some had paint on them and others were corroded on the outside. Any metal plater would have immediately known how to treat such a problem. He might have soaked them in a hot caustic solution to take off the old paint and then possibly given them a liquid bath in a dilute Muriatic Acid solution with perhaps a bit of Nitric in it to brighten them up. For rusted steel he probably would have pickled the parts in a 10 per cent hot or cold Sulphuric Acid bath until the rust and old metal scale were eaten off.

There are many ways that old material can be salvaged for a useful purpose these days, ways that are inexpensive and fairly efficient. We don't know all the answers but would be glad to try to help you or refer you to someone specializing in this work.

6 Per Cent Freight Advance Rescinded

On May 15th the 6 per cent freight increase inaugurated in April 1942 was withdrawn on interstate and intrastate (California) freight rates. Those customers purchasing on an f.o.b. manufacturing plant basis will save the amount of the 6 per cent in the freight they normally pay to have the material delivered, but those items purchased on a delivered basis will remain the same price regardless of the reduction. The OPA has advised that neither the manufacturer nor the buyer needs to adjust his prices downward because of this freight cost decrease inasmuch as the prices did not go up when freight increase was first initiated.

Substitutes

Nickel, monel, stainless steel, and other corrosion-resistant metals are becoming scarcer than the proverbial "hen's teeth." All of these materials are used in huge quantities in the manufacture of armaments, and, as is only just in war time, civilian needs are secondary in importance.

The chemical industry has come forward with a partial solution to this problem by producing plastic tubes, sheets, and other shapes, some of which are highly resistant to acids, caustics, solvents, etc. If you have a problem in handling products of this nature and are unable to obtain the usual corrosion-resistant metal equipment, we strongly urge that you investigate the possibility of substituting one of the plastics, notably, those in the polyvinyl acetate or polyvinyl alcohol classes. These plastics, of course, are not suitable for use where high temperatures and/or pressures are encountered but are eminently satisfactory for handling a great many corrosive materials within a moderate pressure-temperature range.

Your Chemical Reporter will bring you helpful chemical information each month through the courtesy of Stauffer Chemical Company, San Francisco, Los Angeles and North Portland.

THE WEST ON ITS WAY

MONTANA

BUILDINGS—McLaughlin Construction Co., Livingston, Mont., has been awarded contract by Seattle District Office of U. S. Engineers for miscellaneous buildings in Cascade County, Mont., to cost less than \$50,000.

DEHYDRATION PLANT—Work on building to house Bitterroot Valley's first dehydrating plant at the Parker Cannery site, Hamilton, Mont., is under way. John Parker, head of the project, said the building will be ready for work by mid-August.

SEWER SYSTEM—Utility Builders, Great Falls, have been awarded contract by U. S. District Engineer Office for less than \$50,000 for construction of a sewer system in Fergus County, Mont.

BUILDING—R. D. Merrill Const. Co., Great Falls, Mont., has been awarded contract by U. S. District Engineer Office, Seattle, for construction of a building in Cascade County, Mont., to cost less than \$50,000.

SEWER SYSTEM—L. M. R. Johnson, Glasgow, Mont., has been awarded contract by U. S. District Engineer Office for less than \$50,000 for construction of a sewer system in Valley County, Mont.

NEVADA

AIRPORT WORK—Axman & Miller, McMinville, Ore., have been awarded a \$304,755 contract by the Civil Aeronautic Administration, Santa Monica, for clearing, grading, paving and drainage for an airport at Lovelock, Nev.

WAR HOUSING—General Construction Co. and J. Walter Johnson, 5205 Hollywood Blvd., Los Angeles, have been awarded contract by U. S. Area Engineer, Kingman, Ariz., for construction of civilian war housing in Clark County, Nev., to cost less than \$100,000.

AIRPORT WORK—Carl E. Nelson, Logan, Utah, has been awarded \$300,966 contract by Civil Aeronautics Administration, Santa Monica,

for clearing, grading, paving and drainage for the Winnemucca, Nev. airport.

NEW MEXICO

AIRFIELD CONSTRUCTION—B. I. Barfield, Amarillo, Texas, has been awarded contract by U. S. District Engineer Office, Albuquerque, for buildings, utilities and additional facilities at an airfield in Otero County, New Mexico, to cost less than \$200,000.

DUST PALLIATIVE TREATMENT—Skousen Bros., Albuquerque, N. M., have been awarded contract by U. S. District Engineer Office, Albuquerque, to cost less than \$100,000 for dust palliative treatment at an airfield in Lea County, N. M.

AIRFIELD BUILDINGS—A. O. Peabody, Santa Fe, N. M., has been awarded contract by the U. S. District Engineer Office, Albuquerque, for construction of additional buildings at an airfield in Santa Fe County, N. M., to cost less than \$500,000.

DUST PALLIATIVE TREATMENT—Ernest Loyd, Fort Worth, Texas, has been awarded contract by the U. S. District Engineer Office, Albuquerque, N. M., for additional dust palliative treatment at an airfield in Eddy County, N. M., to cost less than \$100,000.

OREGON

BUILDING—Wegman & Son, Board of Trade Building, Portland, have been awarded \$85,000 contract for construction of a personnel building at the Oregon Shipbuilding yard.

BUILDINGS, ETC.—Viesko & Hannaman, Salem, have been awarded contract of about \$350,000 by Portland District, U. S. Army Engineers Office, for construction of additional buildings and appurtenant work in Jackson County, Oregon.

SHIPS—Oregon Shipbuilding Corp., Portland, Ore., has been awarded contract for 17 Liberty ships and 105 Victory ships by the Maritime Commission, to be completed by the end of 1944.

SEWAGE DISPOSAL PLANT—Morrison-Knudsen Co., Boise, Idaho, have been awarded contract by U. S. Engineers for sewage disposal plant in Deschutes County, Oregon, to cost between \$100,000 and \$500,000.

Hand Power Stitcher

MARKWELL
No. 16



HEAVY DUTY
7 inch Throat

Simple pressure drives a Markwell Staple assuring maximum holding power. Staples automatically feed into place. Stitches paper and burlap bags, sides and lids of cartons, leather and fabrikoid on trunks and bags, composition covering around heaters and pipes, etc., etc.

With "RB3" HEAD using Markwell "RBA" (1/4 in. leg) and "RB" (5/16 in. leg) staples. **\$25.00**

With "NAILER" HEAD using Markwell sizes "M" (15/32 in. leg) and "L" (5/8 in. leg) staples. **\$27.50**

With "GIANT C" HEAD using Markwell double width sizes "K" (1/4 in. leg), "C" (3/8 in. leg), "D" (1/2 in. leg) and "E" (5/8 in. leg) staples. **\$27.50**

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Write today for subscription rates and FREE copy of the "Sales Prospector." It will pay you to keep posted!

WESTERN INDUSTRY'S SALES PROSPECTOR

503 Market Street

San Francisco, Calif.

AIR BASE BUILDINGS—Knott, Rogers & Dunbar, Portland, have been awarded a \$94,940 contract by the Housing Authority of Portland for construction of four buildings in the vicinity of the Portland Air Base, Portland, Ore.

SHIP FENDERS—Oregon Wood Products Company, Newberg, Ore., have signed a Navy contract for the manufacture of ship fenders.

TAXIWAYS—Babler Bros., 4617 S.E. Milwaukee, Portland, have been awarded contract by U. S. Engineer Office, Portland, for widening taxiways in Deschutes County, Ore., to cost less than \$500,000.

GRAIN ALCOHOL PLANT—A grain alcohol plant to use more than 7,000,000 bushels of soft wheat and barley annually, has been proposed for construction on the Columbia River, somewhere between Pasco and The Dalles, Ore. Construction work is to be done by J. A. Terteling & Sons, Idaho, at an estimated cost of \$1,800,000.

RAILROAD WORK—Portland Tug and Barge Co., 8444 N.W. St. Helens, Portland, Ore., have been awarded contract by the U. S. Engineer Office, Portland, for railroad work in Multnomah County, Ore., to cost between \$100,000 and \$500,000.

SHIPS—Kaiser Co., Swan Island, Portland, Ore., has been awarded contract for 47 tankers by the Maritime Commission, to be completed by the end of 1944.

BUILDING ADDITIONS—Ralph & Horowitz, 1835 N. Flint St., Portland, Ore., have been awarded contract for addition of a second story to the International Business Machine building at the Swan Island shipyard of Kaiser Co., to cost \$75,000.

GRADING, PAVING, ETC.—C. T. Malcolm & A. A. Teislau, 7909 N.E. Halsey, Portland, have been awarded contract by U. S. Engineer Office, Portland, for grading, paving and appurtenant work in Yamhill County, Ore., to cost between \$100,000 and \$500,000.

ELECTRO-DEVELOPMENT LABORATORY—Albany, Ore., has been selected as the site for the northwest electro-development laboratory where Bureau of Mines metallurgists will study the recovery and processing of minerals from the Pacific Northwest. Negotiations have been completed for the purchase of the vacated buildings and grounds of the Lewis and Clark College.

UTAH

RIFLE RANGE—Ford J. Twaits Co., 451 S. Boylston Ave., Los Angeles, has been awarded contract for more than \$100,000 by U. S. District Engineer Office, Salt Lake City, for construction of a rifle range at an army camp in Salt Lake County, Utah.

AIR DEPOT CONSTRUCTION—Intermountain Const. Co., Atlas Building, Salt Lake City, has been awarded contract by the U. S. District Engineer Office, for construction of a storage building and a platform storage at an air depot in Weber County, Utah, to cost under \$375,000.

MAGNESIUM COMPANY—The Utah Magnesium Company has filed articles of incorporation. The company is capitalized at \$100,000 and is organized to develop minerals and other deposits near Thompson, Utah. Principal office will be at Thompson. The home office will be at Reno, Nev., but the corporation's statement declared that all of its \$100,000 assets will be represented by property located in Utah.

WAAC BUILDING—R. J. Daum, Inglewood, Calif., has been awarded contract by U. S. District Engineer, Salt Lake City, for construction of WAAC building in Tooele County, Utah, to cost under \$76,000.

PIPE LINE—Macco-Robbetson Pipe Co., Los Angeles, have been awarded contract for construction of a 32-mile pipe line to provide water for the Army air base at Wendover, Utah, to cost about \$500,000.

ARSENIC KITCHENS—H. E. Schraven, 317 Dooly Bldg., Salt Lake City, has been awarded contract by the American Smelting & Refining Co., Midvale, Utah, for the construction of five arsenic kitchens for the smelter at Murray, Utah.

WASHINGTON

DWELLING UNITS—Anderson Building Co., Spokane, will construct 25 temporary family units in Spokane. \$52,518 contract was awarded by the Federal Public Housing Authority.

AIRPORT CONSTRUCTION—Allocation of \$1,400,000 by the Civil Aeronautics Administration has been made to the Seattle-Tacoma airport now under construction at Bow Lake.

Will your war products pass this final inspection?



Over rail . . . across miles
of enemy-patrolled water
. . . through trail-less
jungles . . . this shipment
got there, because it was
shipped right and strapped
right. It passed the final
inspection of safe arrival.
Acme Steelstrap assures
fast, safe protection to
every type of shipping
pack . . . complies with
all Federal Strapping Spec-
ifications.



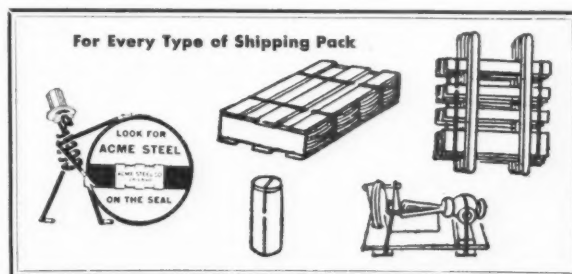
Strapping is speedy and easy with Acme Steelstrappers which tension, seal and cut the strap with a single stroke of two levers. The tool is equipped with an automatic seal feed.

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American and Allied soldiers may be seriously handicapped—even placed in jeopardy—because the war product you're making doesn't arrive in perfect condition. Remember, no product becomes a real war product until it is safely in the hands of those who will use it.

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A product that is Acme Steelstrapped is assured of maximum protection. In addition, container material is conserved, handling speeded, costs cut . . . and shipping space reduced. There is a type of Acme Steelstrap for every war package. Send for free, helpful literature now.



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522 N. W. Davis St., Portland
990 Station St., Vancouver, B. C.

THE WEST ON ITS WAY

TRACK REMOVAL—Argentieri & Colarossi, Seattle, have been awarded a \$111,112 contract by the Seattle Board of Public Works for removing street railway tracks and resurfacing on Third Avenue, Seattle.

DWELLING UNITS—Frank Lohse, 1110-8th Ave., Seattle, has been awarded \$276,500 contract by the FPMA for construction of 130 temporary family dwelling units at Moses Lake, Wash.

TRAINING SCHOOL—A. F. Mowat Construction Co., 1331 Third Ave. Bldg., Seattle, has been awarded contract between \$50,000 and \$100,000 by the Seattle District Office of the U. S. Engineers, to build a training school in King County.

BUILDINGS AND WATER SYSTEM—Clyde M. Ludberg Co., Spokane, will construct several buildings costing between \$1,000,000 and \$3,000,000 and a water system costing less than \$50,000 in Grant County, Wash., awarded by U. S. Engineers.

SCHOOLS—Pearl Wanamaker, Washington State Superintendent of Public Instruction has been notified that the Federal Works Agency has approved an allotment of \$687,580 for construction of four school buildings in the Vancouver, Wash., area.

AIRPORT CONSTRUCTION—S. Birch & Sons Construction Co. of Great Falls, Montana, has been awarded contract by U. S. Engineers between \$500,000 and \$1,000,000 for extension of runways, taxiways, hard standings and apron in Kittitas County, Washington.

BUILDINGS—W. C. Smith Inc. and L. H. Hoffman, Portland, and Howard S. Wright Co., Inc., Seattle, have been awarded contract by U. S. Engineer Office, Portland, for construction of buildings and appurtenances in Walla Walla County, Wash., to cost between \$100,000 and \$500,000.

DORMITORY PROJECT—Morrison-Knudsen Company, Inc., 319 Broadway, Boise, Idaho, has been awarded \$255,900 contract by the FPMA for construction of 275-unit dormitory project at Moses Lake, Wash.

SEWER, WATER SYSTEMS, ETC.—A. J. Goerig Construction Co., Seattle, has been awarded contracts totaling \$811,274 by the Vancouver housing authority for construction of sewer and water systems, electric distribution lines and access roads to serve new housing projects at Vancouver, Wash.

PORTABLE SCHOOL BUILDINGS—N. S. Nelson and Son, Tacoma, will construct the Salishan school and Gault junior high portable addition in Tacoma. Contract for \$65,300 was awarded by the Tacoma School Board.

BUILDING—Hughes & Irons, Cashmere, Wash., have been awarded contract by Public Buildings Administration for construction and equipping a federal recreational building at Ephrata, Wash., to cost \$59,875.

ROAD CONSTRUCTION—McAtee & Heath, Spokane, have been awarded contract to construct roads and do other work in Grant County, Wash. Contract for between \$100,000 and \$500,000 was awarded by U. S. Engineers.

SHORE FACILITIES—The Austin Co., Dexter Horton Building, Seattle, has been authorized to construct additional shore facilities on Puget Sound for the Navy Department. The project, involving construction of several buildings and other facilities will cost \$4,814,420.

SHIPS—Kaiser Co., Vancouver, Wash., has been awarded contract for 48 tankers by the Maritime Commission, to be completed by the end of 1944.

BUILDINGS—Gaasland Construction Co., 1161 Ellis St., Bellingham, Wash., has been awarded contract by U. S. Engineer Office, Wenatchee, for construction of buildings in Kittitas County, Wash., to cost between \$100,000 and \$500,000.

APPLE SYRUP PLANT—The Valley Evaporating plant at Oroville, Wash., is planning on a factory to make the new apple syrup which tobacco manufacturers are using as a substitute moistener in place of glycerine. The plant will have a capacity of about 600 gallons of syrup a day.

BARGES—Sound Const. & Engr. Co., Seattle, has been awarded contract by U. S. District Engineer Office, Seattle, for construction of barges in the Washington area, to cost less than \$500,000.

HOUSING PROJECT—Halvorson Construction Co., Salem, has been awarded \$207,565 contract for construction of the second 100-unit housing project at Pasco, Wash. Previously the Halvorson Const. Co. was awarded contract for the first 100 units at a cost of \$196,709.

WYOMING

AIR BASE CONSTRUCTION—The U. S. District Engineer Office, Omaha, Neb., has approved construction of taxiways and apron widening at an air base in Natrona County, Wyo., estimated to cost more than \$200,000.

ROAD WORK—The Wyoming Construction Company, Laramie, Wyo., has been awarded contract by Wyoming State Highway Commissioner, Cheyenne, Wyo., for grading, surfacing, draining and miscellaneous work on Rock Springs Airport road in Sweetwater County, Wyo., to cost \$99,417.

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OPPORTUNITY SECTION . . .

Priorities regulations have made it practically impossible to secure new machinery for industrial operations unless a plant is doing 100 per cent work on war projects. Even then, long delays are in prospect. The government is urging full use of existing machinery. Listed here are "machinery opportunities" immediately available here on the Pacific Coast.

A. C. GENERATORS

94 KVA, 75 KW, 480-Volt, 3 Phase, 50 Cycle, 6 Pole, 80 PF Master Ball Bearing with direct connected Ball Bearing Exciter and overspeed device, complete with switchboard having meter and G. E. Voltage Regulator, 2 V Pulleys and Ball Bearing stub shaft with coupling for engine drive. Completely reconditioned.

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4—5 K. V. A. Westinghouse
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12—5 K. V. A. Westinghouse
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WESTERN TRADE WINDS

NEWS ABOUT THOSE WHO DISTRIBUTE AND
SELL INDUSTRIAL EQUIPMENT AND MATERIALS



Hiram E. Cassidy, vice president of the McCarty Company, Los Angeles, has been elected to the chairmanship of the Southern California Chapter of the American Association of Advertising Agencies.

E. C. Atkins and Company have substituted a direct factory branch at 989 Howard Street, San Francisco, for their former distributorship in California and Nevada, and appointed **W. L. Davies** as manager. Assisting him are three engineer-representatives: **Charles Platek**, who will devote his entire time to the mill and woodworking market, and **B. B. Berry** and **J. E. Hibbert**, who will contact and service industrial saw buyers and users.

J. C. Richards, previously secretary of Hunt & Mottet Co., Tacoma, Wash., has been named general sales manager, succeeding the late **Harry D. Cowles**.

Charles E. Moore, president of Joshua Hendy Iron Works, with headquarters in Sunnyvale, Calif., has announced the appointment of West-Marquis, Inc. of Los Angeles, as their advertising agency to handle a national advertising program.

G. L. Dodge, until recently vice president of the Powermatic Ventilator Co., Cleveland, has been appointed manager of marketing for Adhere, Inc., Los Angeles.

At its last meeting the Board of Directors of Littelfuse, Inc. elected as vice president, **Ash Wood**, sales manager of the El Monte, California, plant of the company which was erected in 1942.

Westerners named by General Electric Co. on a committee of industrial electronic specialists to help industry with electronic application problems include: **L. E. Donahue**, Los Angeles; **J. A. Setter**, Denver; **A. D. Boardman**, San Francisco; and **L. R. Elder**, Portland.

Westerners who have been asked to serve on an Industry Advisory Committee, headed by **Ray C. Neal**, Chief of the Industrial Supplies Section of WPB's Industrial and Hardware Supplies Branch include: **A. J. Glesener**, San Francisco, and **T. C. Tonkin** of Casper, Wyoming.

The Clayton Manufacturing Company, Alhambra, Calif., has appointed **H. E. Goss** to the sales promotion staff of their valve division. Mr. Goss has a background of experience which includes opening a branch for the Crane Company in Pasadena in 1922 and managing the plumbing section of the Crane Company in both Chicago, Illinois, and Davenport, Iowa.

W. A. (Bill) Bingham, manager of the Coca Cola Bottling Company of Oregon in Portland, for the past seven years, has been advanced to the position of vice-president and general manager of that concern. Bingham, who is active in the war bond campaign for Oregon, has been associated with the Coca Cola organization for the past 20 years.

Recent changes by the Westinghouse Electric & Manufacturing Company include the transfer and promotion of



Walter G. Willson, right, for the past 18 years Westinghouse manager at Phoenix, Ariz., as Los Angeles manager for the company. **Howard S. Warren**, left, has been named Phoenix manager to fill the vacancy caused by the transfer of Willson. **A. J. Bronold**, who has been manager in Los Angeles, has been named assistant to vice president and will make his headquarters in Pittsburgh.

Ralph R. Kimes has been appointed general manager for Aircraft Tools, Inc., according to announcement of **Wade E. Miller**, president.

A committee on post-war appliances formed in the Pacific Coast Gas Association consists of **W. M. Jacobs**, **F. U. Naylor**, **D. E. Farmer**, **W. M. Couzens**, **Klaas Eisinga**, **C. A. Miller**, **J. E. O'Hagan** and **Clyde Watts**.

D. D. "Don" Gildersleeve, for the past 17 years associated with United Motors Service Company, has been appointed sales manager of Edward D. Maltby Company, factory representatives and distributors of bearings, chains, oil seals and synthetic products. Mr. Gildersleeve will be in charge of sales of both the Los Angeles and Phoenix offices.



George F. Toddy has come down from the Northwest to become manager of the San Francisco office of **S. K. Wellman Company**, succeeding **Carl Wiley** who is going to the home office at Cleveland. Toddy, Wiley, **G. O. Abel** of Los Angeles, and **W. T. Naylor** of Salt Lake City went to Cleveland together to attend a company salesmeeting.

E. H. McLaughlin, formerly vice president, has been elected president of the Union Hardware & Metal Co., Los Angeles, and **Edward H. McGinnis**, who was secretary and general manager, has been named vice president and general manager.

A. D. Lewis has been named West Coast service and sales representative for Progressive Welder Co., Detroit, with headquarters at 4328 San Fernando Rd., Glendale, California. He has been West Coast general manager for the Knu-Vise, Inc., Glendale, a position he will continue to hold since sales and service representation for Knu-Vise is handled by Progressive.

Robert Cannon, general manager of Cannon Electric, Los Angeles, has appointed sales manager, **Douglas H. Loukota** to the new position of director of sales and new development. Succeeding Mr. Loukota as sales manager is **William V. Brainard**, formerly Cannon representative for the northern California district.

Announcement has just been made of the change in name of **Lyons & Rood** to **The Techkote Company**, Inglewood, Calif. **S. P. Lyons**, former member of the firm, has relinquished his interest in the company and is devoting full time to his contract application business. **Ashton Rood** continues as manager of The Techkote Company and states that no other personnel changes are planned.

Western Air Lines have new headquarters, occupying the entire eighth floor of the Guaranty Building, 6331 Hollywood Blvd., Los Angeles. They are also constructing a new \$50,000 engine over-haul building, main division of which will house a monorail of approximately 20 giant transport engines.

YOURS FOR THE ASKING

1248

Slide Films—List and prices of discussional slide films which are helpful in solving the training problems of industries and schools where streamlined training is important to the war effort, are available. Trainees are said to learn thoroughly and easily with this simplified visual material. There are films pertaining to basic tools and operations, prefabrication, installation, blue prints and rigging. *Photo & Sound, Inc., San Francisco, Calif.*

1249

Cement Coated Staples—Bulletin giving sizes and information from which shipper may determine what size and kind of staples to use, as nailed wood and cleated plywood shipping containers for overseas shipment must have cement coated staples over all the straps for additional protection. *Signode Steel Strapping Company, 2600 North Western Avenue, Chicago, Illinois.*

1250

Plastics—Two booklets available: "Tenite" which gives information of properties and uses of Tenite, an Eastman plastic with variety of industrial and decorative uses, is beautifully illustrated in color, and "Tenite Molding," which discusses the principles of mold design, molding procedure and finishing technique, is illustrated with drawings of many typical mold designs for both compression and injection molding. *The Tennessee Eastman Corp., Kingsport, Tenn.*

1251

Heavy Construction—A 24-page booklet "The Story of Ziebarth Construction" attractively arranged and illustrated, gives information on how Ziebarth can help with heavy construction problems and shows pictures of jobs they have completed. *Fritz Ziebarth, 861 West Esther Street, Long Beach, Calif.*

1252

Radio Buying Guide—New 1943 buying guide covering everything in radio and electronics. This up-to-date catalog includes detailed listings of transformers, resistors, condensers, switches, rheostats, rectifiers, converters, sound equipment, etc. There is also a technical book section on radio, electronics and electricity. *Allied Radio Corp., 833 West Jackson Blvd., Chicago, Illinois.*

You owe it to yourself to keep posted—only the efficient business survives under the strain and pressure of the war effort. Literature listed in these columns may be just the answer to your need for greater production, substitute materials or knowledge of how to care for your equipment. Just drop a note to Western Industry, 503 Market St., San Francisco, and copies will be forwarded to you. If you do not use business letterheads, please name your company affiliation.

1253

Handling Materials—Two booklets, "Facts About Towmotor" which is packed with information to help check present handling methods against those being proved today, shows the advantages of "unit load" handling, illustrates scores of uses. Each page discusses in detail one problem of industrial handling and how it is solved. Also gives specifications for Towmotor models. The other booklet "The Inside Story" is a clearly written and amply illustrated booklet describing features of Towmotor materials handling equipment. *Towmotor Company, Cleveland, Ohio.*

1254

Electrical Connectors—Bulletin contains Type AN general information, tabular matter and catalog. Various types of AN Connectors are shown. *Cannon Electric Development Co., Dept. B1, 3209 Humboldt Street, Los Angeles, Calif.*

1255

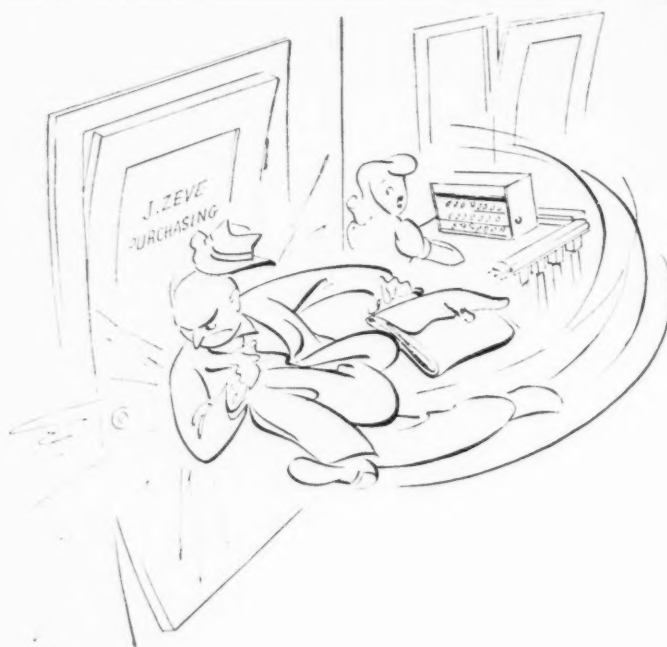
Building Maintenance—68-page booklet, "Hand Book of Building Maintenance," divided into main sections: Floors and Walling, Surface Materials, Leak-Stopping, Roofs and Waterproofing Materials, and Miscellaneous Products and Data, gives practical and economical solutions to a number of building maintenance problems. The suggestions, solutions and materials explained and described have all been tested and found practical. *Flexrock Company, 2300 Manning Street, Philadelphia, Penna.*

1256

Magnesium—Attractively illustrated and readable booklet "The Story of Magnesium" gives information about magnesium including properties, history and use. *The Permanente Metals Corp., Permanente, Calif.*

1257

Contour Sawing—"Doall Contour Saws," a 265-page textbook, covers techniques used in contour machining, laboratory controls in the manufacture of precision saw bands and tells about the free facilities in training offered by Doall. *Doall Service Company, 1201 Thacker Street, Des Plaines, Illinois.*



Sure, You Can Sell Without Advertising!

NO ADVERTISING MAN will deny that sales can be made without advertising. No business executive, on the other hand, should overlook the fact that all too frequently sales thus made carry a selling cost exorbitant and out of line. Sales are made quicker and easier when the urge to buy has been developed before the preliminary selling contact. The prospect who knows your company, your product and recognizes its advantages before you call can be sold in one tenth of the time that the prospect who never heard of you requires. Not only that, but advertising keeps customers sold and satisfied in the face of consistent competition. You can sell without advertising but not as quickly, as widely or as cheaply. Make us prove it!

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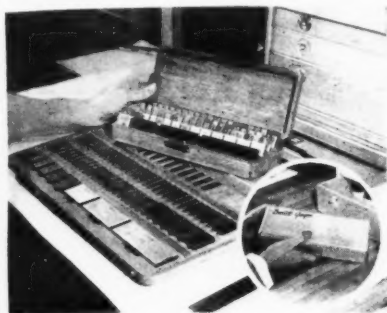
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THE SHOWCASE

Photocopy Machine—A photocopy machine produces exact copies, any size up to 18x22" of anything written, typed, printed, drawn or photographed, without a dark-room and without skill or technical knowledge. *American Photocopy Equipment Company, 2849 N. Clark Street, Dept. 126, Chicago, Illinois.*

Gage Blocks—Set 400, consisting of 81 blocks, available in a mahogany case. Range in length from .050 inches to 4.00 inches. Measuring surface is lapped to a



flatness of less than the quarter wave length of light and is produced with a mirror finish. These two factors enable the blocks to be wrung together in combination, enabling the user to secure practically any dimension in steps of .0001 inches to 12.00 inches. *Savage Tool Company, Savage, Minn.*

Platform Truck—An electric platform truck, controlled similarly to a conventional automobile, features an 18 square foot platform of half ton capacity, four



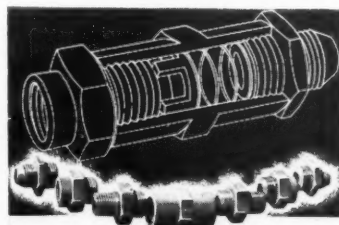
forward and reverse speeds from 1 to 16 miles per hour, and small turning radius which makes it maneuverable in crowded areas. It is designed to meet the wartime necessity for women operators and is provided with a seat, a steering wheel and a foot throttle. Being electric, it is fumeless, flameless, clean and silent, thus may be safely operated indoors. The batteries can be recharged in idle time without removal. *Rocky Mountain Steel Products Company, 1346 Wall Street, Los Angeles, Calif.*

Automatic Bucker—Riveting and bucking simultaneously is now possible with a new automatic bucker. One woman can do



the work that would otherwise require two operators in riveting airplane and other sheet metal parts. Primary advantages claimed are extremely light weight and ease in handling, resulting in 50 per cent reduction in labor costs and better riveting in less time. *Aero Tool Company, Burbank, Calif.*

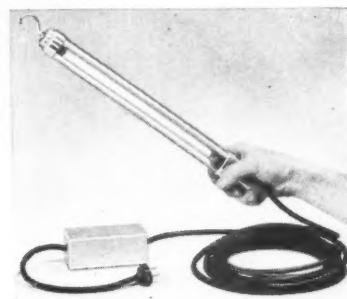
Check Valve—A new type universal check valve "ASP" allows twelve combinations to be made with one body and any two of



three types of adapters. Designed primarily for installation in airplane hydraulic lines, the ASP valve is 16 per cent lighter and has a two to four times increase in flow ca-

capacity with corresponding reduction in back pressure. Made in all standard tubing sizes of heat treated aluminum alloy, a standard body can be assembled with two of three types of adapters to meet the requirements of any combination of tubing, pipe connectors or direction of fluid flow. *American Screw Products, 7000 Avalon Blvd., Los Angeles, Calif.*

Inspection Light—Adapting the streamlined shape of the fluorescent lamp together with the unbreakable safety features of plastic lucite, this new Fluorescent In-



spection Lite meets inspection problems arising from hard-to-see places. Sturdy and simple in construction, the light is easily taken apart for lamp replacement by removing two screws. Combination metal light baffle and support shields light from inspector's eyes. *Commercial Reflectors & Mfg. Co., 3109 Maple Ave., Los Angeles, Calif.*

Steel Scaffold—Wartime repainting of ships has been cut considerably by adaptation of Beatty Safway Steel Scaffold to over-the-water work. Called "Ship Service Floats," these barge-scaffolds enable 12 men to work instead of one by the old saddle and pulley method, doing the job in one-fifth the time. *Beatty Steel Products Company, 415 Bryant, San Francisco, Calif.*

(Continued on Page 50)



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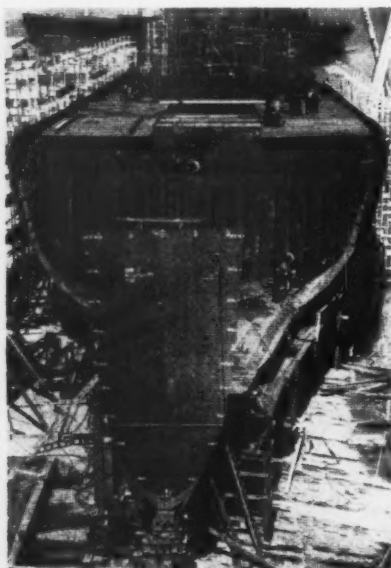
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Western industrial buyers select GOODALL products because they guarantee the dependability and performance so necessary today. Our four district offices in the West, with personnel trained in synthetic and natural rubber, are ready to assist you in developing your current and post-war rubber requirements.



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SUtter 7048

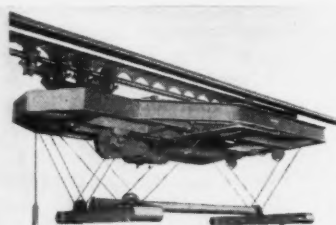
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Elliot 7042

Mills—Trenton, N. J., established 1876

THE SHOWCASE (Concluded from Page 49)

Conductive Flooring—A new, ready-mixed mastic flooring material, easily applied over present floor surfaces, is said to be an effective preventive for explosions due to static electricity in industrial plants. A dark red color, stands repeated washings, can be swept or mopped, and will handle heavy loads regardless of wheel size. Application requires no special labor, and it sets quickly. *Rock-Tred Corporation, 605 West Washington St., Chicago, Ill.*

Tramrail Carrier—One of the oldest problems in hoisting, that of suspending a load rigidly with the use of the usual flexible hoisting ropes, is solved by a new Stabilized Tramrail Carrier. By a simple patented arrangement of the ropes to form a triangular suspension, a load can be held rigidly in place so as to eliminate longitudinal, lateral and rotational sway. A load



can be raised or lowered through a considerable distance with nothing more than the hoisting ropes supporting it and will remain rigid. The load may be considerably unbalanced and yet the carrier will hold it in place. Also, the carrier permits the tilting of a load in either direction with relation to the rail on which the carrier is propelled. If it is desirable to rotate the load, this may be accomplished. Thus in most cases it is possible to place any part of a load in any position that is most convenient and accessible. *Cleveland Tramrail Division, The Cleveland Crane and Engineering Company, Wickliffe, O.*

Locker—A wartime locker compartment fabricated pressed hard fibreboard, although not entirely waterproof or fireproof, offers protection from dirt and moisture. Rabbeted connections reinforced with angle braces, add rigidity and strength to the structure. An olive green lacquer finish gives a hard surface that is easy to clean. Easily assembled, installations can be furnished for from 10 to 10,000 employees. Primary types available are single or double tier, single front; single tier, back to back; double tier, back to back. *The Sanymetal Products Co., Inc., 1705 Urbana Road, Cleveland Ohio.*

INDEX TO ADVERTISERS In This Issue . . .

Advertiser	Page
Acme Steel Corporation	45
Baldwin-Duckworth Div. of Chain Belt Company	14
California Barrel Company	3rd Cover
Cleveland Worm & Gear Company	36
Crocker First Nat'l Bank	31
Cunningham Steel Foundry	54
Daniels, C. R., Inc.	31
Downs Crane & Hoist Company	30
Elastic Stop Nut Corporation	8
Fishstrom Staple Company	44
French & Hecht, Inc.	41
General Electric Company	23
Goodall Rubber Company	50
Harnischfeger Corporation	9
Hendy, Joshua, Iron Works	7
Jeffries Transformer Co.	46
Johnson Gear & Mfg. Co.	1
Johnston, A.P., Co.	46
Jorgensen, Earle M., Co.	29
Latchford-Marble Glass Co.	25
Laucks, I. F., Inc.	35
Littlejohn - Reuland Corp.	46
Maltby, Edward D., Company	42
McCarty Company, The	48
Oakite Products, Inc.	42
Payne Furnace & Supply Co.	40
Pioneer Rubber Mills	37
Plant Rubber & Asbestos Works	31
Plastics Industries Technical Institute	39
Premier Oil & Lead Works	11
Stauffer Chemical Company	43
Stephens-Adamson Mfg. Co.	4th Cover
Sylvania Electric Products, Inc.	10
Thomas Truck & Caster Co.	6
Tidewater Associated Oil Co.	8
Timber Engineering Company	12
Union Oil Company	4
Victor Equipment Company	2nd Cover
West Disinfecting Company	33
Western Gear Works	21



CARBON and ALLOY

**ELECTRIC STEEL
CASTINGS**

Cunningham
STEEL Foundry

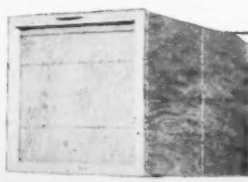
4200 WEST MARGINAL WAY, SEATTLE

Page
45
14
d Cover
36
38
50
28
36
3
44
41
23
50
9
7
46
1
46
29
25
35
46
42
48
42
40
37
31
39
11
43
Cover
10
6
8
12
4
Cover
33
21



Tough to follow. He might lead to a tangled jungle, over a burning desert... certainly bound to sail over the seven seas... but wherever he goes his supplies must surely follow. Ammunition, spare parts, food and medicine; these things must get there... and get *there in perfect condition* for victory depends upon it. Cabco Allbound Containers help solve a vital part of this problem for these light weight, strong wirebound wood boxes, scientifically designed for the particular job on hand, take the supplies through intact... as packed. They save weight, save time, conserve lumber and displacement.

In World War II **CABCO's come through**



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SEC. 562, P. L. & M.
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San Francisco, Calif.
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At the Los Angeles Union Passenger Terminal, Stephens-Adamson conveying equipment once again revolutionizes a handling system by eliminating the former bag and truck handling of mail. Direct mail delivery from the train to the various departments of the Post Office is effected by a system of S-A conveyors and portable loaders, speeding deliveries of heavy war-time mail and saving countless man hours.

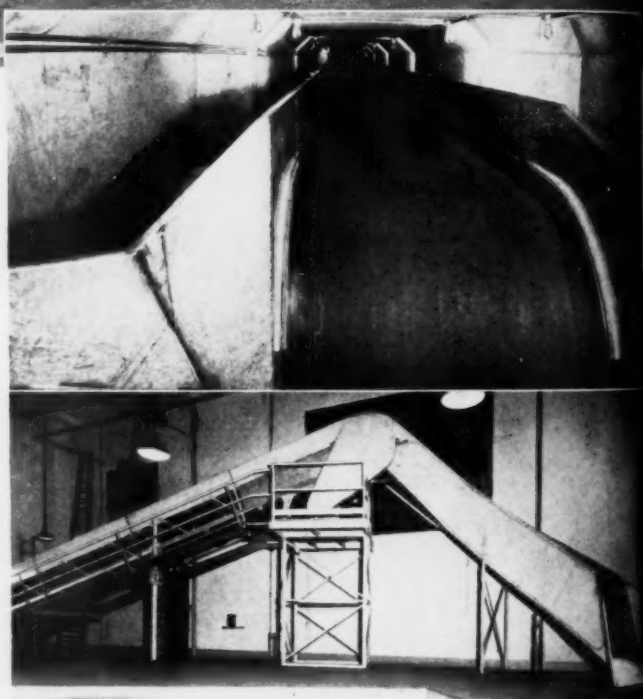
This is another one of the many instances where S-A installations have solved handling problems in the rapidly expanding West. The long experience of S-A engineers in being the first with new ideas insures our ability to handle your job at the lowest possible cost.

May we submit our recommendation on your next handling requirement, without obligation?

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•(Top) Outside view of the S-A conveyor handling mail from cars. •(Center) Inside view of conveyor, running from train to Post Office. •(Bottom) Conveyor in Post Office, distributing mail to the various postal departments and loading platform.

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